

## **Appendix A3. DeltaSOS Simulations of the Delta Wetlands Project Alternatives**

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### **SUMMARY**

*This appendix describes simulations of the Delta Wetlands (DW) project alternatives and of the no-project condition representing the baseline with which DW project effects may be compared for impact assessment. Simulations for the DW alternatives and the No-Project Alternative were each performed with the Delta Standards and Operations Simulation (DeltaSOS) model using the objectives for Delta outflow and Delta export limits specified in the 1995 Water Quality Control Plan for the San Francisco Bay/Sacramento-San Joaquin Delta Estuary (1995 WQCP). Simulations were performed also for cumulative conditions; in addition to the 1995 WQCP objectives, these simulations allow for exports at full capacity at the State Water Project (SWP) Banks Pumping Plant.*

*The appendix describes the initial Delta water budget for the DeltaSOS simulations, specifies DeltaSOS input parameters (switches) for the DW project simulations, and describes the DeltaSOS standard matrix values for the simulations. Results of the DeltaSOS simulations for the No-Project Alternative, the DW project alternatives (Alternatives 1, 2, and 3), and cumulative conditions for the No-Project Alternative and the DW project alternatives are presented.*

### **INTRODUCTION**

The DeltaSOS model was used to simulate operations under each of the DW project alternatives (Alternatives 1, 2, and 3) for impact assessment purposes. The No-Project Alternative was also simulated with DeltaSOS to provide a baseline condition, including the same Delta operating conditions, with which operations under each alternative could be compared. As described in Chapter 3, "Affected Environment and Environmental Consequences - Overview of Impact Analysis Approach", the simulations were performed based on the assumption that operations of the DW project and the No-Project Alternative would be consistent with the 1995 WQCP objectives for Delta outflow and Delta export limits and with current U.S. Army Corps of Engineers (Corps) limits on SWP pumping (6,680 cubic feet per second [cfs]). For assessment of cumulative impacts, DeltaSOS simulations were also performed for operations that would be consistent with the 1995 WQCP, but allowing for SWP export pumping at the full physical capacity of 10,300 cfs for Banks Pumping Plant.

Because the 70-year hydrologic record for the Delta is the best description of likely future hydrologic conditions, hydrologic data from this record serve as the basis

of simulations of future Delta operations. The results of the simulations are therefore shown as corresponding to the water years of the hydrologic record (1922-1991) and represent estimates of operations under hydrologic conditions replicating those of this period of record.

The two following sections:

- discuss the modeling assumptions for the DeltaSOS simulations of DW project effects and
- describe and illustrate DeltaSOS simulation results for the No-Project Alternative and the DW project alternatives.

### **DELTA CONDITIONS FOR THE SIMULATED NO-PROJECT ALTERNATIVE AND DW PROJECT ALTERNATIVES**

DeltaSOS simulations require an initial Delta water budget, user-specified input parameters (switches) that govern simulated Delta operations, and specified matrices of Delta standards. The reader is referred to Appendix A1 for more information on the initial Delta water budget

used for the DeltaSOS simulations. The user-defined switches and standard matrices are described in detail in Appendix 2, "DeltaSOS: Delta Standards and Operations Simulation Model".

### DWRSIM-Simulated Initial Delta Water Budget for DeltaSOS Simulations

The lead agencies for the DW project environmental impact report/environmental impact statement (EIR/EIS) determined that the simulations for the DW project impact assessment should be performed assuming implementation of the 1995 WQCP objectives as interpreted by California Department of Water Resources (DWR) for modeling the water supply effects of the WQCP using DWRSIM, DWR's Delta operations model. The lead agencies consider the DWRSIM results to be the best available representation of likely future Delta conditions under the 1995 WQCP objectives.

DWR performed the DWRSIM simulation of WQCP water supply effects, referred to as DWRSIM study 1995-C6B-SWRBC-409, in January 1995. The results of this simulation were used for estimating the initial Delta water budget for DeltaSOS and evaluating water supply impacts of the DW alternatives using the DeltaSOS model. The DWRSIM modeling assumptions necessary to represent the 1995 WQCP objectives in a monthly water supply planning model have been described in California State Water Resources Control Board (SWRCB) (1995) and DWR (1995). Following are major DWRSIM assumptions for the 1995 WQCP simulations:

- Upstream hydrology, depletions, and diversions were based on the 1995 level of development, as presented in DWR Bulletin 160-93, "California Water Plan Update" (DWR 1994). See Appendix A1 for more details.
  - Water-year classification was based on the "40-30-30 Sacramento Valley Four-River Index" and the "60-20-20 San Joaquin Valley Four-River Index". The outflow requirements during February-June depend on the previous month's "Eight-River Index" runoff volume. These water-year classification schemes are slightly different from those used for the standards specified in SWRCB's Water Right Decision 1485 (D-1485), which established the Delta operating criteria in effect until approval of the WQCP.
  - Delta outflow requirements were the combination of fixed monthly requirements, estuarine habitat requirements (expressed in terms of "X2", the position of the 2-parts-per-thousand [ppt] salinity gradient), and requirements for additional carriage water to satisfy the chloride objectives for Delta exports of 250 milligrams per liter (mg/l). Because the X2 requirements in the WQCP depend on the previous month's runoff, the required outflow must be calculated for each month. Minimum outflow objectives are maintained during low runoff periods. See Appendix A2 for more details.
  - The Central Valley Project (CVP) Delta export demand was assumed to be 3.15 million acre-feet per year (MAF/yr), with 145 thousand acre-feet per year (TAF/yr) in Contra Costa Water District (CCWD) diversions. However, these CVP demands were not always satisfied in drier years in DWRSIM simulations. The SWP Delta export demands were assumed to vary with Kern River runoff and Los Angeles rainfall conditions. The range of possible SWP export demands was 2.6-3.6 MAF/yr, with an average of 2.85 MAF/yr. The maximum combined Delta export demand of 6.7 MAF/yr was specified in about 45% of simulated years.
- When hydrologic shortages were simulated along with these variable demands, DWRSIM estimated the SWP and CVP deliveries based on the terms of the Coordinated Operation Agreement (COA). The simulated average annual Delta export, based on these variable demands and hydrologic shortages, was 5.7 MAF/yr, with 2.8 MAF/yr simulated as SWP delivery and 2.9 MAF/yr simulated as CVP delivery. Because DeltaSOS does not separate CVP and SWP exports, the total for Delta exports was used for water supply impact assessment.
- San Joaquin River inflows, estimated with another DWR model called STANSIM, met the WQCP Vernalis water quality objectives and the Vernalis pulse-flow objectives (with a maximum of 70 TAF/yr of releases in addition to the existing instream flow requirements). In some years of the simulations, the Vernalis pulse-flow objectives were satisfied with additional water from upstream tributaries (Tuolumne and Merced Rivers). This additional San Joaquin River inflow averaged 72 TAF/yr but

was required in only a few years. See Appendix A2 for more details on simulation of the pulse-flow requirements.

- Combined SWP and CVP Delta exports were limited as specified in the WQCP to a percentage of the simulated Delta river inflow (which does not include rainfall runoff). These percentages are 35% in February-June, and 65% for the remainder of the year. The February percentage is 45% if the January Eight-River index is less than 1.0 MAF. Export pumping during the pulse-flow period was limited to the pulse flow during half of April and half of May. SWP pumping capacity was assumed to increase in December-March as allowed in the Corps permit, whenever San Joaquin River flow exceeded 1,000 cfs. See Appendix A2 for more details.
- Several other modeling assumptions, such as carryover storage requirements, were used for these DWRSIM simulations of the 1995 WQCP. These are not directly related to Delta operations and are considered to be accurate representations of current SWP and CVP operating constraints that are appropriate for simulations of the DW project alternatives and the No-Project Alternative for impact assessment.

Table A3-1 shows the annual average values from the 70-year 1922-1991 hydrologic record for the initial Delta water budget terms as simulated by DWRSIM for the 1995 WQCP. Annual simulated values were compared with historical data (Appendix A1) and appear to provide a reasonably accurate representation of historical conditions. Simulated values match historical records most closely at the end of the historical period, when both development of facilities and level of demand approximated the simulated conditions.

Monthly values simulated by DWRSIM for the 70-year period of record were used as the initial Delta water budget values for DeltaSOS simulations of the No-Project Alternative and the DW project alternatives. The full range of historical variation in hydrologic conditions is therefore included in these DeltaSOS simulations.

Table A3-1 indicates that simulated SWP and CVP Delta export pumping averaged 5,712 TAF/yr over the 70-year period, with an additional 146 TAF/yr of CCWD diversions. Simulated Sacramento River and Yolo Bypass inflows averaged 15,998 TAF/yr and 2,118 TAF/yr, respectively. Eastside stream and San Joaquin River inflows averaged 835 TAF/yr and 2,401 TAF/yr, respec-

tively. Delta depletion, together with North Bay Aqueduct and City of Vallejo export pumping, averaged 931 TAF/yr. Simulated Delta outflow averaged 14,562 TAF/yr and DWRSIM-estimated outflow requirements averaged 5,802 TAF/yr. The historical records are summarized in Table A1-1 in Appendix A1 for the 70-year 1922-1991 period. The large year-to-year variations in hydrology are similar for the simulated and historical annual values. Simulated water resource operations have a greater effect on monthly values than on average annual values.

#### User-Specified Input Parameters for DW Project Simulations

Table A3-2 identifies the choices for each DeltaSOS switch in the DW project simulations. These choices are explained in the following discussions.

**Hood Diversions to Exports? (0=No, 1=Yes).** This switch is set at 0 and the three Hood diversion control matrices are not used because there are no simulated Hood diversions.

**Delta Standards Outflow Point. (0=Collinsville, 1=Chippis Island).** DeltaSOS simulations for DW project impact assessments used Collinsville, upstream of the Suisun Marsh salinity control gate, as the Delta outflow control location so that potential effects of the gates on total outflow requirements could be disregarded.

**Add Carriage Water to Required Outflow? (0=No, 1=Yes).** DeltaSOS uses DWRSIM estimates of required Delta outflow (including all 1995 WQCP objectives). DWRSIM simulations include a considerable amount of carriage water in addition to required monthly Delta outflow values to prevent salinity intrusion at the export locations in late summer and fall. DeltaSOS simulations for the DW project impact assessment used the DWRSIM estimates of total required outflow that include carriage water and X2 requirements to prevent the carriage water inflow from being exported by the SWP or CVP pumps or diverted to the DW reservoir islands in the simulations and to prevent any difference between the estimates of X2 requirements.

**Include Channel Depletion in Inflow? (0=No, 1=Yes).** The 1995 WQCP uses only river inflows in the calculation of allowable exports, so this DeltaSOS switch is set to 0.

**Open Montezuma Gates to Meet Outflow? (0=No, 1=Yes).** Because DeltaSOS simulations for DW project impact assessment used Collinsville as the Delta outflow control location, opening the Suisun Marsh salinity control gate does not help meet outflow requirements in these simulations. Therefore, this switch is set to 0 for all DW simulations.

**Cut Pumping to Meet Outflow? (0=No, 1=Yes).** DeltaSOS simulations for DW project impact assessment set this switch to 1 as a way to meet Delta outflow requirements at Collinsville. However, because DWR-SIM outflow requirements are used in DeltaSOS, no outflow adjustments are required. The user-specified minimum monthly pumping during cutbacks was set at 1,500 cfs for all DW project simulations, as specified in the 1995 WQCP.

**Outflow Deficit Limits Delta Storage Exports? (0=No, 1=Yes).** This switch is set to 0 for all DeltaSOS simulations for DW project impact assessment, allowing DW discharge water to be exported during any simulated periods of Delta outflow deficits. However, because there are no outflow deficits simulated, the switch has no effects on DW project simulations.

**Delta Storage Export Limit Exemption? (0=No, 1=Yes).** This switch is used to indicate whether DW project discharges are exempt from specified export pumping limits. This switch is set to 0 (no exemption) for DW simulations under 1995 WQCP objectives.

**SWP/CVP Export All Available? (0=No, 1=Yes).** DeltaSOS can simulate an increase in Delta exports if simulated pumping capacity remains within the specified export limits. The extra pumping is limited to water that is in excess of specified Delta outflow objectives. This switch is set to 1 for all DeltaSOS simulations of DW project alternatives. Therefore, DeltaSOS simulates all potential CVP and SWP pumping prior to estimating water available for DW diversion or pumping capacity available for export of DW discharges. The south-of-Delta demands and storage capacity for water are not evaluated by DeltaSOS; simulated exports in some years will likely exceed the needs for water.

This assumption of maximum CVP and SWP exports within the export limits specified in the 1995 WQCP may cause DeltaSOS to simulate more Delta export than can be fully used in some years. However, this DeltaSOS assumption avoids the potential situation in which DW diversions and discharges would be simulated to occur in the same month (water being discharged from storage from one island and being diverted to fill an

empty reservoir island at the same time). It seems likely that in the event that more water were needed for south-of-Delta beneficial uses than initially simulated with DWR-SIM, additional SWP or CVP export pumping of available water in the Delta would occur prior to discharge from DW storage for export pumping. Details of this DeltaSOS adjustment to DWR-SIM-simulated exports are presented below under the discussion "DeltaSOS Adjustments of DWR-SIM-Simulated CVP and SWP Exports" in the section "DeltaSOS Simulation Results for the DW Project Alternatives".

**Limit Delta Storage Export to Percent of Inflow? (0=No, 1=Yes).** This switch is set to 1 for all DW alternatives. DW alternatives with DW exports not subject to the 1995 WQCP "percent inflow" limits and allowed up to the permitted pumping rate (Alternatives 2 and 3) were simulated by changing the DW export "fraction of inflow" matrix values to 1.0.

**Effective Montezuma Diversion Factor.** This factor governs the effective change in Delta outflow, relative to salinity control, of the diversions into Montezuma Slough when the Suisun Marsh salinity control gate is operating. This factor is set at 1.0 for DeltaSOS simulations for DW project impact assessment. Because Collinsville is used as the Delta outflow control point for the DW simulations, this setting does not affect export pumping or outflow.

**Starting Month for Delta Outflow Restrictions (1=Oct) and Ending Month for Delta Outflow Restrictions (1=Oct).** These switches are used to specify the control period for the OUTQ Delta outflow standards. These standards require specified flows for a specified number of months within the control period, but they do not specify the individual months when the flows are required. These switches are set at 1 and 12 but have no effect because the OUTQ matrix values are zero and the DWR-SIM estimates of required Delta outflow are used in DeltaSOS.

**QWEST Estimated with Threemile Included? (0=No, 1=Yes).** All DeltaSOS simulations for DW project alternatives set this switch to 0 so that Threemile Slough flows are not included in QWEST objectives. This switch has no effect because there are no QWEST objectives in the 1995 WQCP.

**Minimum San Joaquin River Flow for Extra SWP Pumping.** The Corps permit for SWP export pumping contains a provision allowing additional pumping (greater than 6,680 cfs) using the four recently installed pumps whenever San Joaquin River inflow is

greater than 1,000 cfs during the period of December 15 to March 15. This flow threshold applies to daily flows; however, DeltaSOS allows this threshold to be specified for monthly simulations, and DeltaSOS simulations for DW project impact assessments set the threshold at 1,000 cfs.

**Minimum Pumping during Cutbacks.** DeltaSOS simulations for DW project impact assessment used a minimum export pumping value of 1,500 cfs. This switch has no effect because there are no export reductions required in the DWRSIM initial estimates.

**Roe Island Outflow Trigger (km).** This input is used to estimate the outflow requirements, which are increased if the previous end-of-month estimate of X2 is downstream of this specified location. This value has no effect because the DWRSIM estimates of outflow requirements are used in DeltaSOS.

**Initial X2 Position.** This corresponds to the X2 position at the beginning of the simulation period (end of September 1921) because the X2 position is calculated as a sequence that depends on the previous month's value.

**Estimate X2 Outflow Requirements? (0=No, 1=Yes).** This switch is set to 0 for the DW simulations but can be used to allow rapid comparison of DeltaSOS calculations of incremental X2 outflow requirements. This switch has no effect because DWRSIM estimates of outflow requirements are used for the DW alternatives.

**Monthly Minimums and Fractions of Available Water for DW Diversion.** DeltaSOS estimates water available for DW diversion by calculating excess Delta outflow and excess QWEST flow. Monthly minimums and fractions of excess flows can be specified in DeltaSOS to limit DW project diversions to provide a buffer of excess available flows.

A minimum excess flow is not specified for simulations of the DW project alternatives. Setting the monthly fractions of available water to 0 is the quickest method for simulating the No-Project Alternative because this will prevent any simulations of DW operations. (The reduction in consumptive use should be also changed to 0 in the matrix for DW storage evaporation.)

### DeltaSOS Standard Matrices for the DW Project Simulations

DeltaSOS simulations also require as input specified standard matrices. Each of the required matrices to simulate the 1995 WQCP objectives is explained in Appendix A2 and summarized here.

Table A3-3 gives the Delta standard matrices used for simulating the DW project alternatives and the No-Project Alternative with DeltaSOS, assuming 1995 WQCP objectives. The first matrix ("Minimum required Sacramento River flow at Freeport") is set to zero because no Sacramento River flushing flows are included.

The second matrix of Table A3-3 ("Sacramento River trigger for the Delta Cross Channel") indicates that the Delta Cross Channel (DCC) is closed from November to May for winter-run salmon protection and for flood control whenever Sacramento River inflow is greater than 25,000 cfs. Minimum Rio Vista flows are specified for September-December.

The "Minimum QWEST flow" matrix of Table A3-3 indicates that there are no QWEST flow objectives in the 1995 WQCP, so the QWEST matrix values are -15,000 cfs.

The minimum San Joaquin River flows are developed from a combination of WQCP objectives. The Vernalis electrical conductivity (EC) objective is 0.7 millisiemens per centimeter (mS/cm) in the April-August irrigation season and 1.0 mS/cm for the remainder of the year. The flow necessary to maintain these EC values can be approximated with a flow-EC regression using available EC and flow data; this has been simulated with DWR's STANSIM model and used in the DWRSIM results. The DeltaSOS minimum of 900 cfs is considerably less than the flows necessary to meet the EC objectives and will therefore not cause any additional San Joaquin inflow adjustment to be made in DeltaSOS. The minimum February-June flow requirements depend on the San Joaquin Four-River Index year-type classification. Whenever the monthly X2 is downstream of Chipps Island (11,400-cfs Delta outflow equivalent), these required San Joaquin River flows are increased by the amount of flow given at the bottom of each year-type column (i.e., 1,290 cfs in wet and above-normal water years). The pulse-flow requirements in half of April and half of May depend on year type and are also incremented if the Delta outflow is sufficient to maintain X2 downstream of Chipps Island.

The allowable increase in SWP pumping capacity under the Corps permit is simulated in DeltaSOS to match the DWRSIM assumptions. The monthly San Joaquin River flows increase the monthly SWP capacity by the percentage given in the matrix, 17% in December and March and 33% in January and February. The barrier at the head of Old River to protect migrating salmon is simulated to be closed in October and in April and May, as specified in the 1995 WQCP.

The "Minimum Delta outflow" matrix of Table A3-3 indicates that the Delta outflow matrices have been set to 0 because the DWRSIM-simulated Delta outflow requirements are being used directly in DeltaSOS (input as "carriage water" requirements). This avoids any conflicts between the variable X2 requirements and carriage water estimates that DWRSIM simulates and estimates that might be calculated in DeltaSOS.

The combined Delta export capacity is assumed to be 11,280 cfs for April-November and to be reduced to 10,880 cfs in December-March. However, as described above, San Joaquin River inflow can raise the combined capacity to 11,700 cfs in December and March, and to 12,700 cfs in January and February, as assumed in DWRSIM. The physical capacity of the combined pumps is actually 14,900 cfs during April-November and 14,500 cfs during December-March. These maximum physical capacity limits were used in the simulations for cumulative conditions, as described in a later section.

The 1995 WQCP objectives limit SWP and CVP exports to a specified percentage of the Delta river inflows. These percentages (35% for February-June, 65% for the remaining months) do not depend on year type. The February percentage increases to 45% if the January Eight-River Index runoff is less than 1.0 MAF. The sixth column is used to specify the percentages used for DW discharges for export. This column is the same as the SWP and CVP export percentages for some DW alternatives but is changed to 100% to allow DW discharges for export to the pumping capacity.

Montezuma Slough tidal gates are assumed to operate during October-March, with April and May gate operation eliminated because of concerns about winter-run salmon predation.

Five matrices presented on the third and fourth pages of Table A3-3 specify operating parameters for in-Delta water storage used in simulating DW project alternatives, when appropriate. (These five matrices are ignored by DeltaSOS in simulating the No-Project Alternative.) The first in-Delta water storage control matrix specifies as-

sumed end-of-month reservoir storage capacities. Year-round storage is assumed for all DW alternatives, so the value of 238 TAF for two reservoir islands or 406 TAF for maximum storage on four reservoirs is used. The next matrix specifies assumed monthly evaporation losses from the DW reservoir islands and assumed reductions in Delta consumptive use caused by forgoing irrigation of the DW islands (see Appendix A1). The monthly diversion rates, discharge rates, and required outflow release rates are specified in the final three DW control matrices.

### **DELTA SOS SIMULATION RESULTS FOR THE DW PROJECT ALTERNATIVES**

DeltaSOS simulation results for the No-Project Alternative and the DW project alternatives can be reviewed in detail in actual DeltaSOS model spreadsheets on a computer screen. Selected results are described and summarized in the following sections. These results allow comparison between each DW project alternative and the No-Project Alternative and are used for DW project impact assessments for water supply, hydrodynamics, water quality, and fisheries in Chapters 3A, 3B, 3C, and 3F, respectively.

#### **DeltaSOS Adjustments of DWRSIM- Simulated CVP and SWP Exports**

As discussed above, DeltaSOS simulates all potential CVP and SWP pumping prior to estimating water available for DW diversion or pumping capacity available for export of DW diversions. This requires that DeltaSOS adjust the initial DWRSIM results to increase the combined CVP and SWP exports to the maximum possible within the export limits specified by the 1995 WQCP.

DWRSIM initial results sometimes showed simulated available water for diversions and also unused export pumping capacity. If DW alternatives were simulated without adjustment of the DWRSIM results, DW operations would likely be overestimated. It seems likely that should more water be needed for south-of-Delta beneficial uses than was initially simulated with DWRSIM, additional amounts of available water would be exported by the SWP or the CVP before DW discharges for export would occur. The DeltaSOS adjustment of DWRSIM exports reduces the available water for DW diversion and reduces the opportunity for DW discharge

for export. This adjustment provides the most reasonable estimate of likely DW operations and eliminates the potential situation in which DW diversions and discharges would be simulated to occur in the same month (water being discharged from storage from one island and being diverted to fill an empty reservoir island at the same time).

This assumption results in greater SWP and CVP exports being simulated by DeltaSOS than by DWRSIM and may cause DeltaSOS to simulate more Delta export than can be fully used in some years. This water may not actually be exported in wet years without additional surface water or groundwater storage facilities being available. The DeltaSOS simulations for the DW project therefore may include slightly more SWP and CVP export pumping than would likely occur under these hydrologic conditions. On the other hand, the DeltaSOS-simulated maximum CVP and SWP export pumping would be allowable under the 1995 WQCP objectives and might occur in the future if demands increase and storage facilities are added.

This DeltaSOS assumption of maximum SWP and CVP export pumping will reduce the potential DW diversions and DW discharges for export in some years when the initial DWRSIM results indicated less combined pumping. Nevertheless, this appears to be the most reasonable assumption for realistic impact assessment of the DW project for water supply, hydrodynamics, water quality, and fishery resources. Appendix A4, "Possible Effects of Daily Delta Conditions on Delta Wetlands Project Operations and Impact Assessments", provides a discussion of the possibility for DW diversions and discharges to occur at different times within the same month because of hydrologic variation within a month.

Table A3-4a shows the monthly DWRSIM-simulated combined CVP and SWP Delta export pumping rates (in cfs) for water years 1922-1991. The total annual water-year export volume (in TAF) and monthly average pumping rates (in cfs) are also shown. Table A3-4b shows the monthly increase in combined exports simulated with DeltaSOS. This simulated increase is limited by outflow objectives and the percentage of Delta river inflow specified in the 1995 WQCP. Table A3-4c indicates the maximum possible export simulated by DeltaSOS.

Table A3-4b indicates that DWRSIM-simulated exports were generally at the maximum possible under 1995 WQCP objectives during summer (June-September), when export demands are highest. DWRSIM-simulated exports were less than the maximum possible

in some months when export demands (and San Luis Reservoir maximum filling rate) limited export. In these months, DeltaSOS adjustments were the largest. Table A3-4b indicates that the average annual adjustment in CVP and SWP combined exports was 442 TAF/yr, increasing the average exports from 5.71 MAF/yr to 6.15 MAF/yr.

Table A3-4c indicates that SWP and CVP export pumping was at the maximum permitted rate in some months, but exports in the majority of months were limited by the outflow or export limit objectives in the 1995 WQCP. For 1983, the adjusted DeltaSOS export pumping was at the maximum monthly rate each month, for a maximum annual total permitted export pumping volume of 8,377 TAF.

### Results for the No-Project Alternative

#### Annual Average Results for the No-Project Alternative

Table A3-5 presents annual average flow volumes (TAF) simulated by DeltaSOS for the No-Project Alternative. The water year and water-year types, as defined by the 1995 WQCP for the Sacramento and San Joaquin River Basins are indicated for reference (1 = wet, 5 = critical). There are no required Sacramento River inflows, so the added Sacramento River flows were 0. The annual Sacramento River inflow ranged from 6,775 TAF for 1931 to 35,577 TAF for 1983, with a mean annual flow of 15,998 TAF/yr. The required San Joaquin River flow ranged from 790 TAF to 1,759 TAF in wet years. The additional San Joaquin River flow needed to satisfy the 1995 WQCP objectives was estimated by DeltaSOS to average 27 TAF/yr. The adjusted San Joaquin River inflow averaged 2,428 TAF/yr.

Steamboat and Sutter Slough diversions from the Sacramento River averaged 5,091 TAF/yr, slightly less than one-third of the Sacramento River inflow. The adjustments in DCC flows to satisfy the Rio Vista objectives were relatively small. The DCC flow averaged only 1,347 TAF/yr because of the extended closure period specified in the 1995 WQCP. The combined DCC and Georgiana Slough diversions averaged 4,090 TAF/yr, approximately 25% of the Sacramento River flow. The simulated Rio Vista flow averaged 13,793 TAF/yr, with 2,118 TAF/yr from the Yolo Bypass (not shown).

The QWEST flow with the DWRSIM-simulated exports averaged 862 TAF/yr, but many years were simulated with an average negative QWEST flow volume. No reductions in export for QWEST requirements were simulated because there are no QWEST objectives in the 1995 WQCP. The Delta outflow (Collinsville) with the DWRSIM exports averaged 14,562 TAF/yr. Average diversions into Suisun Marsh through Montezuma Slough of 930 TAF/yr reduced the Chipps Island outflow to 13,631 TAF/yr. There were no simulated export reductions to satisfy outflow requirements, because the DWRSIM outflow requirements were used in DeltaSOS.

DeltaSOS estimates the 1995 WQCP export limits as a percentage of monthly inflow, without reference to the permitted export pumping rate or outflow requirements, to average 10,292 TAF/yr. In a few months, slight adjustments were required to be made to the DeltaSOS specified export limits (usually associated with the extra SWP pumping estimates). The average export adjustment made to the maximum allowable 1995 WQCP exports within the permitted pumping rate was 442 TAF/yr. The adjusted annual exports totaled 6,154 TAF/yr. The adjusted QWEST flow was reduced to 420 TAF/yr, and the adjusted outflow was reduced to 14,120 TAF/yr.

The available water volume would be excess water not needed to satisfy 1995 WQCP objectives, with CVP and SWP pumping at the permitted rate. This water could be diverted by the DW project if sufficient diversion capacity and storage capacity were available. No DW operations were simulated for the No-Project Alternative, so the "final" export, QWEST flow, and outflow remained unchanged after the export adjustments were made. The simulated Threemile Slough flow averaged 3,084 TAF/yr from the Sacramento River to the San Joaquin River. Old River diversions from the San Joaquin River averaged 1,370 TAF/yr, about 56% of the San Joaquin River flow. The simulated San Joaquin River flow at Antioch averaged 3,504 TAF/yr.

While these annual totals indicate the general movement of water within the Delta and show the year-to-year fluctuations in Delta hydrology, the monthly DeltaSOS-simulated flows are also of interest. These seasonal flow patterns are summarized in the next section for the No-Project Alternative.

#### Monthly Percentile Tables for the No-Project Alternative

Table A3-6 (six pages) presents frequency percentiles for monthly values from the DeltaSOS simulation of the No-Project Alternative. Each output column from Table A3-5 is summarized in monthly percentiles in Table A3-6. The monthly percentiles provide an important seasonal summary of the simulation values.

These monthly "stacks" are the distribution of simulated monthly flows for each calendar month for the 70 simulated years, given in 10% increments (7 years) and do not represent a sequence of monthly values. The sequence of simulated flows can be found in the DeltaSOS spreadsheet. The monthly distribution of flows provided in the percentile tables gives an overview of the simulated flows in a particular calendar month.

As an example of how the tables are read, on the first page of Table A3-6, monthly percentiles for "Sacramento River inflow" indicate that the lowest October flow in the No-Project Alternative simulation was 7,061 cfs. Ten percent of the years (7 of 70 years) had an October flow of less than 8,521 cfs, 50% of the years (35 of 70 years) had an October flow of less than 13,235 cfs, and the maximum October flow was 29,964 cfs. The average (mean) October flow was 14,883 cfs.

As another example, on the second page of Table A3-6, monthly percentiles for "Delta Cross Channel flow" indicate that the DCC was always closed in November to May. In addition, the DCC was closed at least 1 year in October and at least 10% of the years in June because the Sacramento River flow exceeded the flood control threshold of 25,000 cfs.

On the fourth page of Table A3-6, the monthly adjustments in Delta export are summarized. For a few months, minor reductions were simulated to meet DeltaSOS estimates of the export limits (DeltaSOS uses cfs units, while DWRSIM uses TAF units). The majority of the adjustments in export were simulated to occur during November-May. In January, for example, significant adjustments were made for less than 30% of the years, because 70% of the January adjustments were less than 15 cfs.

The fourth page of Table A3-6 also shows the simulated "available water for diversion". Although there was at least one year with some available water in each calendar year, most of the available water was simulated for November-March. This table indicates the magnitude of the available water. For example, in January there was

simulated available water in more than 60% of the years, and 50% of the years had available average January flows of greater than 6,475 cfs, which is greater than the DW project monthly average diversion capacity. The table indicates that when available water for diversion is simulated, the flow is usually relatively high compared with the DW diversion capacity.

The fifth page of Table A3-6 shows no simulated DW operations for the No-Project alternative, and the final CVP and SWP combined export pumping. This table can be used to identify the frequency of capacity being available for potential DW discharges for export within the permitted pumping rate through comparison of the maximum export pumping simulated for each month compared with the frequency distribution that represents the allowable pumping rate for simulated Delta inflows under the 1995 WQCP objectives.

#### **Monthly and Annual Graphs for the No-Project Alternative**

DeltaSOS produces several types of graphs that display monthly and annual simulation results. This section presents selected graphs to summarize DeltaSOS results for the No-Project Alternative. Monthly values are presented on three pages representing three segments of the 70-year hydrologic record: 1922-1944, 1945-1967, and 1968-1991.

Figure A3-1 shows simulated monthly Delta outflow and required Delta outflow as estimated by DWRSIM. The difference between the two curves represents surplus Delta outflow for the input hydrology and 1995 WQCP objectives. Required Delta outflow is greater during wetter year types and represents a considerable portion of the outflow in dry years.

Figure A3-2 shows simulated values for monthly Delta export pumping. Adjusted exports are those simulated by DeltaSOS based on estimating additional water available for export within specified monthly pumping limits and other Delta objectives (without considering downstream demands and storage capacity). Export adjustment is the difference between initial exports simulated by DWRSIM and adjusted exports simulated by DeltaSOS. The greatest amount of additional export is simulated by DeltaSOS during spring. However, there may not be a demand for these additional simulated exports.

Figure A3-3 shows annual Delta outflow and required Delta outflow (in MAF) as simulated by DeltaSOS

for the No-Project Alternative. There was no surplus Delta outflow simulated in some years, but surplus outflow of several MAF was simulated in most other years.

Figure A3-4 shows the simulated annual values for initial (DWRSIM) Delta exports and adjusted annual exports (after all objectives are satisfied and all available water is pumped). DeltaSOS simulated no additional export pumping in some years, but 9 years were simulated with more than 1,000 TAF of additional export. The maximum possible export for most years is less than 7 MAF; 15 years had exports greater than 7 MAF, and 1983 is the only year with simulated exports greater than 8 MAF. The DW project alternatives were simulated for comparison with these adjusted no-project Delta conditions, although the need for these additional exports for beneficial uses was not evaluated with DeltaSOS.

#### **DeltaSOS Results for Alternative 1**

Alternative 1 consists of potential year-round diversion and storage of water on two reservoir islands. Wetland vegetation and waterfowl habitat may be provided incidentally in years when the DW reservoir islands are partially full or empty during the appropriate months. A relatively small volume of incidental storage will occur on habitat islands for wetland management (see Chapter 2, "Delta Wetlands Project Alternatives").

Diversions to the reservoir islands (238-TAF capacity) would occur during any month with available surplus flows. DW proposes a maximum monthly average diversion rate of 4,000 cfs to fill the two reservoir islands in 1 month. Maximum siphon capacity would be 9,000 cfs when diversions begin and head differential between the channel and island bottom is at a maximum. The simulated monthly average discharge rate is 4,000 cfs. The maximum discharge rate is about 6,000 cfs when the DW reservoir islands are full.

For DeltaSOS simulations of Alternative 1, it is assumed that discharges of water from the DW islands would be exported in any month when unused capacity within the permitted pumping rate exists at the SWP and CVP pumps and the export limits do not prevent use of that capacity. Such unused capacity could exist when the amount of available water (i.e., total inflow less Delta channel depletion and Delta outflow requirements) is less than the amount specified by the export limits.

### **Simulated Monthly DW Operations for Alternative 1**

Table A3-7 presents the monthly DW operations (diversions, end-of-month storage, and discharges) simulated by DeltaSOS for Alternative 1. This three-page tabular format allows the DW operations in a particular year of interest to be identified. This table presents the most complete record of simulated DW operations for Alternative 1.

Table A3-7a presents the monthly simulated diversions to storage (cfs), arranged as monthly flow values for each simulated water year, from 1922 through 1991. The annual total diversions (TAF) are shown in the right hand column, and the average monthly diversion flows (cfs) are given at the bottom of the table.

Table A3-7b presents the monthly simulated discharges from storage (cfs), arranged as monthly flows for each simulated water year, from 1922 through 1991. The annual total discharges (TAF) are shown in the right-hand column, and the average monthly discharge flows (cfs) are given at the bottom of the table.

Table A3-7c presents the combined end-of-month storage (TAF) for the DW reservoir islands. The seasonal storage in wetlands and ponds on the habitat islands is not included in these values. The storage is increased by diversions and is reduced by evaporation and discharges from the reservoir islands. The average end-of-month storage volumes are given at the bottom of the table.

### **Annual Average Results for Alternative 1**

Table A3-8 presents the annual average values for DeltaSOS-simulated Delta conditions for the proposed DW project under the 1995 WQCP objectives. Only the third page, giving the simulated DW operations, is significantly different from the simulation results for the No-Project Alternative.

Simulated DW operations for Alternative 1 average 222 TAF/yr of diversions, with 188 TAF/yr of discharge for export. The DW project would not have operated in several years (9 of 70 years) because water available for diversions was limited. In other years, however, the simulated DW discharge for export is greater than the 238-TAF storage capacity of the two reservoir islands because of multiple diversion and discharge periods in the same year (6 of 70 years). The maximum simulated annual discharge for export was 444 TAF in 1957.

DeltaSOS does not, however, evaluate the need for these additional exports.

### **Monthly Percentile Tables for Alternative 1**

Table A3-9 presents monthly percentiles of simulated values for the proposed project. The first panel of Table A3-9 gives monthly percentiles for DW diversions to storage. This panel summarizes the monthly diversions shown in Table A3-7a. Diversions are simulated in only about 20% of the fall and winter months because water may not be available for diversion or because the DW reservoir islands may already be full. The seasonal pattern of DW diversions is shown, and the mean diversion for each month indicates the overall importance of that month for DW diversions. October-January is the most important period for diversion.

The second panel of monthly percentiles shows end-of-month storage on the DW reservoir islands for the 70-year hydrologic record. Water would generally be diverted onto the DW reservoir islands during winter and discharged during summer. For example, the reservoirs are simulated to be empty in October for 70% of the years, empty in January and February about 20% of the years, and essentially empty in August and September in at least 90% of the years.

Monthly percentiles do not indicate the sequence of months of DW storage in a particular year. Therefore, the 70-year simulation of monthly storage values shown in Table A3-7 must be examined directly to determine how often the DW reservoirs would be empty for a series of months (e.g., from June through August for wetland plant growth).

The third monthly percentile panel gives the DW discharges for export for each month. Discharges for export are simulated in about 30% of the years for July and August. Discharges are not simulated in months when stored water is not available for discharge or when additional pumping capacity is not available for export of DW discharges. The seasonal pattern of DW discharges is shown, and the mean discharge for each month indicates the overall importance of that month for DW discharges. July and August are the most important months for discharges.

The fourth panel of monthly percentiles shows the pattern of DW releases for Delta outflow for each month. The values in this panel are zeroes because under the DW project alternatives, DW releases are not simulated for Delta outflow; water is held in the DW reservoirs until it

can be discharged for export. DW water may be discharged for Delta outflow if this beneficial use is selected by the water purchaser.

The fifth panel of Table A3-9 presents monthly percentiles for simulated total Delta export pumping for each month, including DW discharges for export. For example, export pumping in April is simulated at the maximum allowable rate (11,280 cfs) for less than 10% of the years. Export of DW discharges would occur during months when the SWP and CVP pumping is limited by Delta outflow requirements.

#### Monthly and Annual Graphs for Alternative 1

Figure A3-5 shows simulated monthly values of water available for DW diversions and of diversions to DW storage. This figure shows the fraction of available water that is simulated to be diverted for DW storage. Because the amount of available water is often greater than 4,000 cfs (the maximum monthly diversion needed to fill the 238-TAF capacity of two reservoir islands), only a small portion of the available water is diverted in most months.

Figure A3-6 shows the simulated pattern of monthly DW storage. Storage over several months is the most common pattern, but several years show multiple diversion and discharge periods, indicated by a rapidly fluctuating storage pattern.

Figure A3-7 shows simulated total Delta exports (including DW discharges) and the DW discharges for export.

Figure A3-8 shows simulated annual values for DW operations under Alternative 1. Simulated annual diversions and discharges are not always equivalent, indicating that water was stored in DW reservoirs from one year to the next.

Figure A3-9 shows simulated annual Delta exports under Alternative 1, including initial DWRSIM exports, exports adjusted by DeltaSOS, and final exports including DW discharge water. The figure also shows the additional exports from DW discharges.

Effects of DW diversions on reduced annual Delta outflow are not detectable in annual values, so the annual Delta outflow patterns are those shown in Figure A3-3.

#### Results for Alternative 2

DW diversion operations under this alternative would be the same as under Alternative 1. In DeltaSOS simulations of Alternative 2, it is assumed that releases of water from the DW islands would be exported by the SWP and CVP pumps when unused capacity within the permitted pumping rate exists at the SWP and CVP pumps. DW discharges would be allowed to be exported in any month when such capacity exists, without regard for the export limits (percentage of total Delta inflow). Under this alternative, it is assumed that export of DW discharges is limited by the WQCP Delta outflow requirements and the permitted combined pumping rate of the export pumps but is not subject to the WQCP "percent of inflow" export limit.

#### Simulated Monthly DW Operations for Alternative 2

Table A3-10 presents the monthly DW operations (diversions, end-of-month storage, and discharges) simulated by DeltaSOS for Alternative 2. This three-page tabular format allows the DW operations in a particular year of interest to be identified. This table presents the most complete record of simulated DW operations for Alternative 2.

Table A3-10a presents the monthly simulated diversions to storage (cfs), arranged as monthly flow values for each simulated water year, from 1922 through 1991. The annual total diversions (TAF) are shown in the right-hand column, and the average monthly diversion flows (cfs) are given at the bottom of the table. The diversions are similar to those simulated for Alternative 1 because the simulated pattern of available water for DW diversion is the same. However, DW diversions simulated for March and April were higher than those simulated for Alternative 1 because of some increased discharges under Alternative 2 (see below).

Table A3-10b presents the monthly simulated discharges from storage (cfs), arranged as monthly flows for each simulated water year, from 1922 through 1991. The annual total discharges (TAF) are shown in the right-hand column, and the average monthly discharge flows (cfs) are given at the bottom of the table. Results for a few months were different than for Alternative 1 because of the increased simulated DW discharge opportunity. Discharges in February and March were higher under Alternative 2 than under Alternative 1. Simulated June discharges were higher under Alternative 2 than under Alternative 1, but July and August discharges were lower

because the amount of DW storage capacity available was usually simulated to be about the same for the two alternatives.

Table A3-10c presents the combined end-of-month storage (TAF) for the DW reservoir islands. The seasonal storage in wetlands and ponds on the habitat islands is not included in these values. The DW storage is increased by diversions and is reduced by evaporation and discharges from the reservoir islands. The average end-of-month storage volumes are given at the bottom of the table. The simulations show that the reservoir islands would empty earlier in the summer under Alternative 2 than under Alternative 1.

Table A3-11 shows DeltaSOS simulation results for Alternative 2. The results show average annual diversions of 225 TAF/yr and 202 TAF/yr of discharge for export. DW maximum storage for each water year was often 238 TAF, but simulations for 11 out of 70 years had DW storage of less than 100 TAF. Table A3-12 shows the monthly percentiles for simulated DW operations under Alternative 2. Diversions (see first panel) of 2,000-4,000 cfs are simulated to generally occur early in a water year (October-March), with discharges (see third panel) of 2,000-4,000 cfs during the middle or late part of the water year (February-March and June-July). The DW project would not have operated in several years because of limited water available for diversions (less than 100 TAF of diversions in 17 of 70 years).

Figure A3-10 shows simulated annual DW diversions and discharges for Alternative 2. DW operations under Alternative 2 are simulated generally to occur in the same years as operations simulated under Alternative 1, but the maximum discharges are slightly more because of the simulated increases in opportunities for DW discharges for export.

Figure A3-11 shows simulated annual exports for Alternative 2. The initial (DWRSIM-simulated), DeltaSOS-adjusted, and final exports are shown, along with the additional DW discharges for export.

### Results for Alternative 3

Under Alternative 3, water would be diverted for storage in reservoirs on all four DW project islands. In DeltaSOS simulations of this alternative, DW initial storage volume is assumed to be 406 TAF. The maximum monthly DW diversion rate to the four islands is simulated to be 6,000 cfs, which would allow most of the

DW storage volume to be filled in a single month. The maximum monthly average DW discharge rate is 6,000 cfs for simulation purposes. The diversion and discharge modeling assumptions for this alternative are the same as for Alternative 2, but the assumed diversion and discharge rates are higher.

### Simulated Monthly DW Operations for Alternative 3

Table A3-13 presents the monthly DW operations (diversions, end-of-month storage, and discharges) simulated by DeltaSOS for Alternative 3. Table A3-13a presents the monthly simulated diversions to storage (cfs), arranged as monthly flow values for each simulated water year, from 1922 through 1991. The annual total diversions (TAF) are shown in the right-hand column, and the average monthly diversion flows (cfs) are given at the bottom of the table. The diversions simulated for Alternative 3 are much larger than those simulated for Alternative 2 because the simulated DW storage capacity is greater. Some monthly diversions are simulated at 6,000 cfs, but other periods require two months of diversions to fill the simulated DW storage capacity.

Table A3-13b presents the monthly simulated discharges from storage (cfs), arranged as monthly flows for each simulated water year, from 1922 through 1991. The annual total discharges (TAF) are shown in the right-hand column, and the average monthly discharge flows (cfs) are given at the bottom of the table. The simulated discharges are greater for Alternative 3 than for Alternative 2, but are simulated to occur in the same months because the same DW export capacity was simulated for Alternatives 2 and 3. Some monthly average discharges were simulated at 6,000 cfs, while other periods required lower discharges for more than one month.

Table A3-13c presents the combined end-of-month storage (TAF) for the four DW reservoir islands under Alternative 3. The seasonal storage in wetlands and ponds in habitat areas on Bouldin Island are not included in these values. The storage is increased by diversions, and is reduced by evaporation and discharges from the reservoir islands. The average end-of-month storage volumes are given at the bottom of the table.

Table A3-14 shows DeltaSOS mean annual simulation output for Alternative 3. Simulated average annual operations for Alternative 3 were 356 TAF/yr of diversions and 302 TAF/yr of discharge for export. These values are much greater than those for Alternative 2 because of the increased reservoir capacity. The increased storage does not change simulated DW

operations, however, during years with limited water available for diversions.

Table A3-15 shows the monthly percentiles for simulated DW operations for Alternative 3. Diversions of 2,000-6,000 cfs are simulated generally to occur early in a water year (October-February), with discharges of 2,000-4,000 cfs during spring (February-March) and summer (June-August). The DW project still would not have operated, however, in several years because of limited water available for diversions (less than 100 TAF of diversions in 13 of 70 years) or no available export pumping capacity for DW discharges.

Figure A3-12 shows simulated annual DW diversions and discharges for Alternative 3. DW operations are simulated generally to occur in the same years under Alternative 3 as under Alternative 2, but the diversions and discharges are much greater, with about 4 years of more than 500 TAF/yr in exports simulated.

Figure A3-13 shows simulated annual exports for Alternative 3. The DWRSIM-simulated, DeltaSOS-adjusted, and final exports are shown, along with the additional DW discharges for export. The simulated final exports for several years are greater than 7.5 MAF/yr, with more than 8 MAF in 3 years. DeltaSOS does not, however, evaluate the need for these additional exports.

#### **DELTA SOS RESULTS FOR DW PROJECT ALTERNATIVES UNDER CUMULATIVE CONDITIONS**

The assumptions for simulations of cumulative conditions were the same as for the simulations detailed above, except that the full SWP pumping capacity was assumed to be available in any month for Delta exports. This availability of full pumping capacity may require approval and implementation of DWR's South Delta Project and a revised Corps permit. Cumulative conditions for the No-Project Alternative and DW project alternatives were simulated by DeltaSOS with the same initial DWRSIM inputs, but allowing for greater adjustment of the original DWRSIM exports. The initial DWRSIM combined SWP and CVP Delta exports are given in Table A3-4a.

Table A3-16a presents the simulated monthly DeltaSOS adjustments of the initial DWRSIM exports (cfs) for each water year from 1922 to 1991, with the annual total adjustments in exports (TAF) shown in the right-hand

column and the average monthly change in exports (cfs) given at the bottom of the table. The adjustments in the DWRSIM-simulated exports averaged 1,018 TAF/yr, with several years (13 out of 70 years) having more than a 2,000-TAF simulated increase in exports. Although these exports might be possible within the restrictions of the 1995 WQCP objectives, DeltaSOS does not evaluate the need for these additional exports.

The DeltaSOS-adjusted exports for the cumulative conditions are presented in Table A3-16b. Maximum Delta export pumping was simulated as possible under the 1995 WQCP objectives for 1983 (except for 750 cfs in August), giving a maximum potential export of greater than 10,500 TAF/yr. The 70-year average annual simulated export was 6,730 TAF/yr for cumulative conditions. Annual exports were less than 7.0 MAF/yr in about half the simulated years; export were greater than 7.0 MAF in 33 out of the 70 years, and greater than 8.0 MAF/yr in 12 out of the 70 years. Although these exports might be possible under the 1995 WQCP objectives, DeltaSOS does not evaluate the need for these additional exports.

#### **Results for the No-Project Alternative under Cumulative Conditions**

##### **Annual Average Results for the No-Project Alternative under Cumulative Conditions**

Table A3-17 (three pages) presents annual average values for Delta conditions simulated by DeltaSOS for the No-Project Alternative under cumulative conditions. Many of the simulated Delta channel flows are the same as reported above for the No-Project Alternative. Only those channel flows affected by exports are different from those simulated for the No-Project Alternative.

DeltaSOS-simulated available water for DW diversions averaged 1,995 TAF/yr for the cumulative No-Project Alternative. The simulated increase in SWP export pumping capacity reduced available water by an average of 577 TAF/yr compared with available water simulated for the No-Project Alternative.

### **Monthly Percentile Tables for the No-Project Alternative under Cumulative Conditions**

Table A3-18 (six pages) presents frequency percentiles for monthly values from the DeltaSOS simulation of the No-Project Alternative under cumulative conditions.

The frequency percentiles for simulated monthly combined CVP and SWP exports indicates that the maximum SWP pumping capacity was used frequently in the fall and winter months, but only rarely in summer months. For example, in October the total exports for No-Project Alternative cumulative conditions (bottom panel on page 5 of Table A3-18) were simulated to be greater than 11,921 cfs for about 30% of the years, and full SWP pumping capacity (11,900 cfs combined pumping) was used in at least 10% of the years. These frequencies were greater during November-March. Other factors were limiting exports during spring and summer (i.e., April-May San Joaquin pulse-flow export restrictions, outflow requirements, inflow percentage limits on exports), so the increased simulated export pumping capacity did not change the simulated exports in most years during these months.

### **Monthly and Annual Graphs for the No-Project Alternative under Cumulative Conditions**

Figure A3-14 shows simulated monthly Delta exports for the No-Project Alternative under cumulative conditions. The figure also shows additional export adjustments that could be made within monthly pumping limits and be consistent with the 1995 WQCP objectives (without considering downstream demands and storage capacity). The greatest amount of extra pumping is simulated by DeltaSOS in winter during periods of high Delta inflow.

The additional exports are simulated in DeltaSOS to provide a proper basis for estimating the potential water supply effects of the DW project alternatives. Only water that could not have been exported by the SWP or the CVP was assumed to be available for DW diversions. Only export pumping capacity that could not have been used by the CVP and the SWP was assumed to be available for export of DW discharges.

### **Results for Alternative 1 under Cumulative Conditions**

#### **Simulated Monthly DW Operations for Alternative 1 under Cumulative Conditions**

Table A3-19 presents the monthly DW operations (diversions, discharges, and end-of-month storage) simulated by DeltaSOS for Alternative 1 under cumulative conditions. Table A3-19a presents the monthly simulated diversions to storage (cfs), arranged as monthly flow values for each simulated water year, from 1922 through 1991. The annual total diversions (TAF) are shown in the right-hand column, and the average monthly diversion flows (cfs) are given at the bottom of the table. The simulated diversions are slightly less than those simulated for Alternative DW 1 because the simulated water available for DW diversion is less for some months. Simulations for several years (22 out of 70 years) show diversions of less than 100 TAF.

Table A3-19b presents the monthly simulated discharges from storage (cfs), arranged as monthly flows for each simulated water year, for the Alternative 1 under cumulative conditions. The annual total discharges (TAF) are shown in the right-hand column, and the average monthly discharge flows (cfs) are given at the bottom of the table. The simulated discharges are also slightly less than those simulated for Alternative 1 and occur predominantly in July.

Table A3-19c presents the combined end-of-month storage (TAF) for the DW reservoir islands for Alternative 1 under cumulative conditions. The seasonal storage in wetlands and ponds on the habitat islands is not included in these values. The storage is increased by diversions and is reduced by evaporation and discharges from the reservoir islands. The average end-of-month storage volumes are given at the bottom of the table.

#### **Annual Average Results for Alternative 1 under Cumulative Conditions**

Table A3-20 shows that simulated diversions for Alternative 1 under cumulative conditions averaged 191 TAF/yr, and simulated discharges for export averaged 166 TAF/yr. The DW project would not have diverted water in some years because of limited water available for diversions. In a few years, however, the simulated DW discharge for export is greater than the 238-TAF reservoir capacity because of multiple diversion and discharge periods in the same year.

### **Monthly Percentile Tables for Alternative 1 under Cumulative Conditions**

Table A3-21 summarizes the DeltaSOS simulations of DW operations. DW diversions are simulated to occur in the months with available water. DW discharges are simulated to occur primarily in July.

### **Monthly and Annual Graphs for Alternative 1 under Cumulative Conditions**

Figure A3-15 shows simulated annual DW operations for Alternative 1 under cumulative conditions. Diversions and discharges do not correspond in years when stored water is carried over from one year to the next.

Figure A3-16 shows simulated annual Delta exports for Alternative 1 under cumulative conditions. DWR-SIM-simulated, DeltaSOS-adjusted, and final exports (with DW discharges) are shown, along with the additional DW discharges for export.

### **Results for Alternative 2 under Cumulative Conditions**

Simulated DW operations for Alternative 2 under cumulative conditions were similar to those simulated for Alternative 2, with several periods of reduced available water for diversions. Table A3-22 presents the monthly simulated diversions, discharges, and DW storage values for Alternative 2 under cumulative conditions.

Table A3-23 shows that simulated diversions for Alternative 2 under cumulative conditions averaged 211 TAF/yr, and simulated discharges for export averaged 197 TAF/yr. These values are about the same as those reported for Alternative 2.

Table A3-24 shows the monthly percentiles of simulated DW operations for Alternative 2 under cumulative conditions. Diversions were simulated generally to occur early in a water year (October-February), with discharges to export during the middle part of a year (February-March) or summer (June-July). The DW reservoir islands are always simulated as being empty at the end of June or July. The DW project would have diverted less than 100 TAF of water in many years (22/70) because of limited water available for diversions.

Figure A3-17 shows simulated annual DW diversions and discharges for Alternative 2 under cumulative conditions.

Figure A3-18 shows simulated annual exports for Alternative 2 under cumulative conditions. DWR-SIM-simulated, DeltaSOS-adjusted, and final exports (with DW discharges for export) are shown, along with the additional DW exports.

### **Results for Alternative 3 under Cumulative Conditions**

Simulated DW operations for Alternative 3 under cumulative conditions were similar to those simulated for Alternative 3, with several periods of reduced available water for diversion. Table A3-25 presents the monthly simulated diversions, discharges, and DW storage values for Alternative 3 under cumulative conditions.

Table A3-26 presents the annual simulated DW operations for Alternative 3 under cumulative conditions. The annual average DW diversions were simulated at 314 TAF/yr, and the average DW discharges for export were simulated at 282 TAF/yr.

Table A3-27 shows the monthly percentiles for simulated DW operations for Alternative 3 under cumulative conditions.

Figure A3-19 shows the simulated annual DW diversions and discharges for Alternative 3 under cumulative conditions.

Figure A3-20 shows the simulated annual exports for Alternative 3 under cumulative conditions. DWR-SIM-simulated, DeltaSOS-adjusted, and final exports (with DW discharges for export) are shown, along with the additional DW exports.

### **CITATIONS**

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Table A3-1. DeltaSOS Mean Annual Input Data from the  
1995 WQCP DWRSIM Results

Water Year	Sac Basin Year Type	Sur Basin Year Type	Banks & Tracy Pumping (TAF)	Sacramento Inflow (TAF)	Yolo Bypass Flow (TAF)	CCWD Pumping (TAF)	Eastside Inflow (TAF)	SJR Basin Inflow (TAF)	Delta Depletion (TAF)	Delta Outflow (TAF)	Required Outflow (TAF)
1922	2	1	6,185	15,237	202	144	1,038	3,037	889	12,296	6,103
1923	3	2	6,191	14,489	194	144	816	2,491	877	10,773	5,833
1924	5	2	4,542	8,586	69	151	201	1,259	1,268	4,155	4,063
1925	4	4	5,735	12,064	809	153	630	1,462	810	8,267	5,195
1926	3	3	5,734	11,614	344	144	390	1,511	984	6,997	5,006
1927	1	4	6,242	19,015	3,222	144	724	1,892	836	17,631	6,980
1928	2	2	6,327	18,455	991	144	577	1,706	1,007	14,252	6,666
1929	5	5	4,564	8,696	100	151	299	1,304	1,135	4,548	4,418
1930	4	5	5,009	10,768	160	153	329	1,140	1,018	6,220	5,052
1931	5	5	3,327	6,775	68	151	205	1,255	1,47	3,677	3,657
1932	4	4	4,148	8,618	157	160	586	1,655	884	5,826	5,190
1933	5	5	3,678	7,535	83	160	264	1,388	1,144	4,288	4,050
1934	5	5	3,737	8,173	146	160	304	1,201	1,098	4,829	4,532
1935	3	3	5,925	12,496	1,209	153	637	2,051	863	9,453	6,455
1936	3	3	6,154	13,335	1,413	144	1,059	2,141	799	10,852	6,248
1937	3	3	5,879	12,426	144	144	940	2,804	753	9,641	5,287
1938	4	1	6,227	18,179	8,591	144	1,682	5,428	574	36,915	8,125
1939	4	4	5,089	10,712	70	144	286	1,695	1,202	6,328	4,357
1940	2	2	6,420	17,632	4,572	144	756	1,896	647	17,651	7,246
1941	1	1	6,275	23,780	9,163	144	809	3,677	507	30,503	7,010
1942	1	1	5,949	25,353	5,099	144	1,154	2,986	754	27,744	6,671
1943	3	4	5,558	20,972	1,639	144	1,550	3,151	884	20,726	7,309
1944	4	4	5,928	11,388	191	144	394	1,642	1,046	6,496	4,952
1945	3	3	6,134	12,566	335	144	745	2,244	974	8,640	5,277
1946	3	3	6,290	16,177	1,462	144	795	2,071	1,076	12,995	6,279
1947	4	4	6,033	10,949	109	144	291	1,557	1,170	5,558	5,072
1948	3	3	6,301	13,098	41	144	364	1,418	1,092	7,384	5,487
1949	4	4	5,692	11,993	193	144	455	1,423	1,112	7,117	4,923
1950	3	3	6,151	12,811	111	144	508	1,532	1,113	7,554	5,599
1951	2	2	21,672	1,900	1,900	144	1,790	2,583	824	20,212	6,326
1952	1	1	28,323	2,379	1,795	144	1,770	3,023	664	27,761	6,765
1953	1	1	5,304	15,092	8,399	144	533	1,965	1,030	17,350	6,080
1954	1	1	5,304	18,839	444	144	368	1,572	1,028	14,884	7,021
1955	4	4	6,016	11,447	172	144	435	1,365	1,028	6,280	5,051
1956	1	1	6,284	21,768	144	144	460	1,484	1,077	27,138	6,221
1957	1	1	6,286	15,092	8,399	144	412	1,785	1,088	10,171	5,661
1958	1	1	7,047	26,266	8,873	144	1,657	3,396	437	32,566	7,267
1959	3	3	5,176	14,716	383	144	339	1,732	1,119	10,730	5,294
1960	4	4	5,856	11,339	317	144	304	1,217	1,139	6,038	5,203
1961	4	4	5,776	11,459	206	144	1,139	1,391	1,107	5,995	5,097
1962	3	3	5,797	12,372	711	144	460	1,484	977	8,109	5,063
1963	1	1	6,652	20,611	2,943	144	741	1,934	752	18,662	7,329
1964	4	4	5,974	12,397	1,48	144	315	1,358	1,177	6,983	5,143
1965	1	1	6,651	19,519	4,554	144	1,222	2,323	937	19,887	6,670
1966	3	3	6,402	13,901	319	144	399	1,962	1,096	8,940	5,602
1967	1	1	6,865	22,181	2,615	144	1,298	3,304	615	21,774	7,553
1968	3	4	4,783	15,971	709	144	432	1,660	1,092	12,753	5,557
1969	1	1	6,430	23,660	5,750	144	1,935	5,454	669	29,543	5,821
1970	1	2	5,031	21,543	8,061	144	1,196	3,283	896	28,011	5,637
1971	1	3	6,813	20,939	1,152	144	707	1,732	960	16,614	7,094
1972	3	4	6,343	13,210	192	144	357	1,515	1,231	7,556	5,409
1973	2	2	6,608	19,810	3,467	144	1,161	2,175	508	19,352	6,944
1974	1	1	6,829	29,264	7,121	144	1,255	2,238	847	32,038	6,944
1975	1	1	6,494	20,440	920	144	894	2,310	976	16,950	6,627
1976	5	5	4,999	10,456	86	151	220	1,160	1,270	5,503	4,416
1977	5	5	3,053	6,824	105	160	149	1,016	1,225	3,657	3,657
1978	2	1	4,507	16,859	2,457	153	840	2,267	560	17,204	7,933
1979	3	2	5,804	13,993	1,130	144	688	2,300	913	10,250	5,844
1980	2	1	5,673	18,292	5,602	144	1,325	2,310	976	23,499	6,568
1981	4	4	5,588	13,093	7,126	144	343	1,912	1,139	8,587	5,109
1982	1	1	7,266	29,591	6,745	144	3,093	5,387	457	36,948	4,416
1983	1	1	5,414	35,577	13,561	144	4,914	15,726	105	64,112	6,197
1984	1	2	4,576	23,213	4,153	144	2,167	6,450	1,004	30,259	5,676
1985	4	4	5,934	13,038	1,192	144	459	1,859	993	8,477	5,058
1986	4	4	6,268	8,880	144	144	2,385	4,814	546	28,078	6,155
1987	5	5	5,808	10,952	78	144	337	1,645	1,172	5,888	4,819
1988	4	4	4,446	9,416	137	144	421	1,014	1,077	5,143	4,505
1989	5	5	5,278	11,782	144	144	323	1,006	1,124	6,644	4,816
1990	4	5	5,065	8,808	100	151	215	940	1,094	4,615	4,506
1991	5	5	3,808	8,612	76	160	269	958	1,094	4,853	4,088
Average			5,712	15,998	2,118	146	835	2,401	931	14,562	5,802

Water-year types: 1=wet, 2=above normal, 3=below normal, 4=dry, 5=critically dry

**Table A3-2. DeltaSOS User-Defined Input Parameters  
for the 1995 WQCP Simulations**

USER-DEFINED INPUTS FOR DELTA OPERATIONS:	Value	Range Names
Hood Diversions to Exports? (0= No, 1= Yes)	0	HOOD
Delta Standards Outflow Point (0= Collinsville, 1= Chipps Island)	0	OUTPT
Add Carriage Water to Required Outflow? (0= No, 1= Yes)	1	CARRY
Include Channel Depletion in Inflow? (0= No, 1= Yes)	0	CDIN
Open Montezuma Gates to Meet Outflow? (0= No, 1= Yes)	0	MSSG
Cut Pumping to Meet Outflow? (0= No, 1= Yes)	1	EPA
Outflow Deficit Limits Delta Storage Export? (0= No, 1= Yes)	0	WHEEL
Delta Storage Export Limit Exemption? (0= No, 1= Yes)	0	FULL
SWP/CVP Export All Available (0= No, 1= Yes)	1	TAKE
Limit Delta Storage Export to Percent of Inflow (0= No, 1= Yes)	1	DWEX
Effective Montezuma Diversion Factor	1.00	MDF
Starting Month for Delta Outflow Restrictions (1= Oct)	1	SDO
Ending Month for Delta Outflow Restrictions (1= Oct)	12	EDO
QWEST Estimated with Threemile Included? (0= No, 1= Yes)	0	TMS
Minimum SJR for Extra SWP Pumping	1,000	MINSJR
Minimum Pumping during Cutbacks	2,000	MINPUMP
Roe Island Outflow Trigger (km)	66.3	ROE
Initial X2 Position (km)	85	INX2
Estimate X2 Outflow Requirements? (0= No, 1= Yes)	0	CALX2

MONTH	Fraction of Available Water	Minimum of Available Water
	FRACT	MINIMUM
OCT	1.0	0
NOV	1.0	0
DEC	1.0	0
JAN	1.0	0
FEB	1.0	0
MAR	1.0	0
APR	1.0	0
MAY	1.0	0
JUN	1.0	0
JUL	1.0	0
AUG	1.0	0
SEP	1.0	0

Diversion = FRACT\*(Available-MIN)

**Table A3-3. DeltaSOS User-Defined Standards for the 1995 WQCP**

**Minimum required Sacramento River flow at Freeport (cfs)**

	Wet	Above Normal	Below Normal	Dry	Critical
Oct	0	0	0	0	0
Nov	0	0	0	0	0
Dec	0	0	0	0	0
Jan	0	0	0	0	0
Feb	0	0	0	0	0
Mar	0	0	0	0	0
Apr	0	0	0	0	0
May	0	0	0	0	0
Jun	0	0	0	0	0
Jul	0	0	0	0	0
Aug	0	0	0	0	0
Sep	0	0	0	0	0

**Sacramento River trigger for the Delta Cross Channel (cfs) (closed if Sac flow below Hood>value)**

	Wet	Above Normal	Below Normal	Dry	Critical
Oct	25,000	25,000	25,000	25,000	25,000
Nov	0	0	0	0	0 Half-time
Dec	0	0	0	0	0 Half-time
Jan	0	0	0	0	0 Half-time
Feb	0	0	0	0	0
Mar	0	0	0	0	0
Apr	0	0	0	0	0
May	0	0	0	0	0
Jun	25,000	25,000	25,000	25,000	25,000
Jul	25,000	25,000	25,000	25,000	25,000
Aug	25,000	25,000	25,000	25,000	25,000
Sep	25,000	25,000	25,000	25,000	25,000

**Minimum Rio Vista flow (cfs)**

	Wet	Above Normal	Below Normal	Dry	Critical
Oct	4,000	4,000	4,000	4,000	3,000
Nov	4,500	4,500	4,500	4,500	3,500
Dec	4,500	4,500	4,500	4,500	3,500
Jan	0	0	0	0	0
Feb	0	0	0	0	0
Mar	0	0	0	0	0
Apr	0	0	0	0	0
May	0	0	0	0	0
Jun	0	0	0	0	0
Jul	0	0	0	0	0
Aug	0	0	0	0	0
Sep	3,000	3,000	3,000	3,000	3,000

**Minimum QWEST flow (cfs)**

	Wet	Above Normal	Below Normal	Dry	Critical
Oct	(15,000)	(15,000)	(15,000)	(15,000)	(15,000)
Nov	(15,000)	(15,000)	(15,000)	(15,000)	(15,000)
Dec	(15,000)	(15,000)	(15,000)	(15,000)	(15,000)
Jan	(15,000)	(15,000)	(15,000)	(15,000)	(15,000)
Feb	(15,000)	(15,000)	(15,000)	(15,000)	(15,000)
Mar	(15,000)	(15,000)	(15,000)	(15,000)	(15,000)
Apr	(15,000)	(15,000)	(15,000)	(15,000)	(15,000)
May	(15,000)	(15,000)	(15,000)	(15,000)	(15,000)
Jun	(15,000)	(15,000)	(15,000)	(15,000)	(15,000)
Jul	(15,000)	(15,000)	(15,000)	(15,000)	(15,000)
Aug	(15,000)	(15,000)	(15,000)	(15,000)	(15,000)
Sep	(15,000)	(15,000)	(15,000)	(15,000)	(15,000)

Table A3-3. Continued

Minimum San Joaquin River flow at Vernalis (cfs)

	Wet	Above Normal	Below Normal	Dry	Critical	
Oct	7,330	5,730	4,620	4,020	3,110	Pulse-flow requirements
Nov	1,500	1,500	1,500	1,500	1,000	
Dec	900	900	900	900	900	
Jan	900	900	900	900	900	
Feb	2,130	2,130	1,420	1,420	900	
Mar	2,130	2,130	1,420	1,420	900	
Apr	2,130	2,130	1,420	1,542	900	
May	2,130	2,130	1,420	1,420	900	
Jun	2,130	2,130	1,420	1,420	900	
Jul	900	900	900	900	900	
Aug	900	900	900	900	900	
Sep	900	900	900	900	900	
	1,290	1,290	860	860	430	Additional flow if X2<Chipps

Maximum percentage of San Joaquin River flow available for SWP export (%)

	Wet	Above Normal	Below Normal	Dry	Critical
Oct	0	0	0	0	0
Nov	0	0	0	0	0
Dec	17	17	17	17	17
Jan	33	33	33	33	33
Feb	33	33	33	33	33
Mar	17	17	17	17	17
Apr	0	0	0	0	0
May	0	0	0	0	0
Jun	0	0	0	0	0
Jul	0	0	0	0	0
Aug	0	0	0	0	0
Sep	0	0	0	0	0

San Joaquin River trigger for Old River gates (cfs) (open if SJR flow at Vernalis>value)

	Wet	Above Normal	Below Normal	Dry	Critical
Oct	10,000	10,000	10,000	10,000	10,000
Nov	0	0	0	0	0
Dec	0	0	0	0	0
Jan	0	0	0	0	0
Feb	0	0	0	0	0
Mar	0	0	0	0	0
Apr	10,000	10,000	10,000	10,000	10,000
May	10,000	10,000	10,000	10,000	10,000
Jun	0	0	0	0	0
Jul	0	0	0	0	0
Aug	0	0	0	0	0
Sep	0	0	0	0	0

Minimum Delta outflow (cfs)

	Wet	Above Normal	Below Normal	Dry	Critical
Oct	0	0	0	0	0
Nov	0	0	0	0	0
Dec	0	0	0	0	0
Jan	0	0	0	0	0
Feb	0	0	0	0	0
Mar	0	0	0	0	0
Apr	0	0	0	0	0
May	0	0	0	0	0
Jun	0	0	0	0	0
Jul	0	0	0	0	0
Aug	0	0	0	0	0
Sep	0	0	0	0	0

Table A3-3. Continued

Maximum Delta export (cfs)

	Wet	Above Normal	Below Normal	Dry	Critical	DW Exemption	Assumed Capacity
Oct	11,280	11,280	11,280	11,280	11,280	11,280	11,280
Nov	11,280	11,280	11,280	11,280	11,280	11,280	11,280
Dec	10,880	10,880	10,880	10,880	10,880	10,880	11,700
Jan	10,880	10,880	10,880	10,880	10,880	10,880	12,700
Feb	10,880	10,880	10,880	10,880	10,880	10,880	12,700
Mar	10,880	10,880	10,880	10,880	10,880	10,880	11,700
Apr	11,280	11,280	11,280	11,280	11,280	11,280	11,280
May	11,280	11,280	11,280	11,280	11,280	11,280	11,280
Jun	11,280	11,280	11,280	11,280	11,280	11,280	11,280
Jul	11,280	11,280	11,280	11,280	11,280	11,280	11,280
Aug	11,280	11,280	11,280	11,280	11,280	11,280	11,280
Sep	11,280	11,280	11,280	11,280	11,280	11,280	11,280

Maximum percentage of inflow available for export (%)

	Wet	Above Normal	Below Normal	Dry	Critical	DW
Oct	65	65	65	65	65	65
Nov	65	65	65	65	65	65
Dec	65	65	65	65	65	65
Jan	65	65	65	65	65	65
Feb	35	35	35	35	35	35
Mar	35	35	35	35	35	35
Apr	35	35	35	35	35	35
May	35	35	35	35	35	35
Jun	35	35	35	35	35	35
Jul	65	65	65	65	65	65
Aug	65	65	65	65	65	65
Sep	65	65	65	65	65	65

Status of Suisun Marsh salinity control gates (0 = open, 1 = operating)

	Wet	Above Normal	Below Normal	Dry	Critical
Oct	1	1	1	1	1
Nov	1	1	1	1	1
Dec	1	1	1	1	1
Jan	1	1	1	1	1
Feb	1	1	1	1	1
Mar	1	1	1	1	1
Apr	0	0	0	0	0
May	0	0	0	0	0
Jun	0	0	0	0	0
Jul	0	0	0	0	0
Aug	0	0	0	0	0
Sep	0	0	0	0	0

Maximum DW storage capacity (TAF)

	Wet	Above Normal	Below Normal	Dry	Critical	2-Island Evaporation	4-Island Evaporation
Oct	238	238	238	238	238	3.3	6.5
Nov	238	238	238	238	238	1.5	3.0
Dec	238	238	238	238	238	0.8	1.6
Jan	238	238	238	238	238	0.9	1.8
Feb	238	238	238	238	238	1.7	3.4
Mar	238	238	238	238	238	3.0	6.0
Apr	238	238	238	238	238	4.5	9.0
May	238	238	238	238	238	6.1	12.2
Jun	238	238	238	238	238	7.0	14.0
Jul	238	238	238	238	238	8.0	16.0
Aug	238	238	238	238	238	7.1	14.2
Sep	238	238	238	238	238	5.2	10.4

Table A3-3. Continued

DW storage evaporation (TAF)

	Wet	Above Normal	Below Normal	Dry	Critical	Net CU Reductions	2-Island Net CU	4-Island Net CU
Oct	3.3	3.3	3.3	3.3	3.3	0.0	-0.6	2.5
Nov	1.5	1.5	1.5	1.5	1.5	0.0	-0.7	1.8
Dec	0.8	0.8	0.8	0.8	0.8	0.0	-1.3	0.9
Jan	0.9	0.9	0.9	0.9	0.9	0.0	0.9	1.1
Feb	1.7	1.7	1.7	1.7	1.7	0.0	1.3	2.3
Mar	3.0	3.0	3.0	3.0	3.0	0.0	4.5	3.4
Apr	4.5	4.5	4.5	4.5	4.5	0.0	3.0	4.4
May	6.1	6.1	6.1	6.1	6.1	0.0	3.7	6.2
Jun	7.0	7.0	7.0	7.0	7.0	0.0	4.1	7.8
Jul	8.0	8.0	8.0	8.0	8.0	0.0	4.8	9.2
Aug	7.1	7.1	7.1	7.1	7.1	0.0	3.7	7.1
Sep	5.2	5.2	5.2	5.2	5.2	0.0	1.5	4.1

Maximum DW diversion (cfs)

	Wet	Above Normal	Below Normal	Dry	Critical	Required Delta Outflow	Required QWEST Flow
Oct	4,000	4,000	4,000	4,000	4,000	3,000	(15,000)
Nov	4,000	4,000	4,000	4,000	4,000	3,000	(15,000)
Dec	4,000	4,000	4,000	4,000	4,000	3,000	(15,000)
Jan	4,000	4,000	4,000	4,000	4,000	3,000	(15,000)
Feb	4,000	4,000	4,000	4,000	4,000	3,000	(15,000)
Mar	4,000	4,000	4,000	4,000	4,000	3,000	(15,000)
Apr	4,000	4,000	4,000	4,000	4,000	3,000	(15,000)
May	4,000	4,000	4,000	4,000	4,000	3,000	(15,000)
Jun	4,000	4,000	4,000	4,000	4,000	3,000	(15,000)
Jul	4,000	4,000	4,000	4,000	4,000	3,000	(15,000)
Aug	4,000	4,000	4,000	4,000	4,000	3,000	(15,000)
Sep	4,000	4,000	4,000	4,000	4,000	3,000	(15,000)

Maximum DW discharge (cfs)

	Wet	Above Normal	Below Normal	Dry	Critical	Required Delta Outflow	Required QWEST Flow
Oct	4,000	4,000	4,000	4,000	4,000	3,000	(15,000)
Nov	4,000	4,000	4,000	4,000	4,000	3,000	(15,000)
Dec	4,000	4,000	4,000	4,000	4,000	3,000	(15,000)
Jan	4,000	4,000	4,000	4,000	4,000	3,000	(15,000)
Feb	4,000	4,000	4,000	4,000	4,000	3,000	(15,000)
Mar	4,000	4,000	4,000	4,000	4,000	3,000	(15,000)
Apr	4,000	4,000	4,000	4,000	4,000	3,000	(15,000)
May	4,000	4,000	4,000	4,000	4,000	3,000	(15,000)
Jun	4,000	4,000	4,000	4,000	4,000	3,000	(15,000)
Jul	4,000	4,000	4,000	4,000	4,000	3,000	(15,000)
Aug	4,000	4,000	4,000	4,000	4,000	3,000	(15,000)
Sep	4,000	4,000	4,000	4,000	4,000	3,000	(15,000)

DW discharge to outflow (cfs)

	Wet	Above Normal	Below Normal	Dry	Critical
Oct	0	0	0	0	0
Nov	0	0	0	0	0
Dec	0	0	0	0	0
Jan	0	0	0	0	0
Feb	0	0	0	0	0
Mar	0	0	0	0	0
Apr	0	0	0	0	0
May	0	0	0	0	0
Jun	0	0	0	0	0
Jul	0	0	0	0	0
Aug	0	0	0	0	0
Sep	0	0	0	0	0

Table A3—4a. Adjustments to DWRSIM Delta Exports (cfs)

Water Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total (TAF)
1922	6,550	6,936	11,472	12,146	12,821	10,357	8,002	8,756	11,277	3,357	4,477	6,502	5,909
1923	11,027	10,941	11,678	9,491	4,073	7,714	6,094	6,266	6,528	11,287	6,367	5,923	4,442
1924	8,063	7,488	11,006	11,574	8,040	4,123	2,792	2,970	4,364	6,480	4,894	3,592	5,487
1925	8,500	6,640	8,870	7,297	1,762	7,948	6,702	5,186	6,542	11,287	7,966	5,969	5,490
1926	9,170	6,932	7,643	11,483	11,762	6,252	6,048	5,126	5,524	11,287	7,966	5,969	5,490
1927	8,909	10,941	11,194	11,346	11,366	7,957	8,094	8,044	6,458	7,379	5,802	6,114	5,990
1928	9,387	10,941	11,363	11,774	8,317	8,570	7,372	5,834	6,312	11,287	7,563	6,299	6,064
1929	6,853	8,671	10,447	9,696	8,462	4,051	3,042	3,208	5,706	9,560	2,784	3,270	4,483
1930	7,521	9,047	11,467	6,634	11,233	3,589	3,538	5,521	10,025	3,388	5,196	4,812	4,812
1931	5,125	4,536	5,711	10,047	6,382	4,262	3,170	2,667	4,267	5,068	537	3,456	3,236
1932	6,131	5,384	11,235	11,466	7,580	3,147	5,096	4,103	2,463	3,426	3,449	5,359	3,941
1933	5,085	5,071	6,016	11,380	7,285	4,810	3,759	3,450	5,464	4,369	853	3,466	3,586
1934	4,430	3,667	8,872	11,508	6,392	6,514	2,986	5,676	4,096	6,70	3,538	3,640	3,640
1935	4,286	8,069	11,763	6,392	10,528	8,094	8,356	7,232	11,287	8,985	5,889	5,687	5,910
1936	7,316	6,839	7,641	11,863	12,821	7,180	6,072	6,492	11,287	9,951	5,972	5,808	5,631
1937	6,715	6,436	9,923	11,101	12,821	12,038	8,026	6,758	5,821	6,808	5,083	6,039	5,666
1938	7,040	10,941	11,351	12,351	8,442	7,195	6,762	8,128	10,257	4,910	4,730	1,243	5,314
1939	11,027	10,745	7,734	6,619	5,117	5,394	4,174	3,874	5,616	11,287	7,510	5,360	4,882
1940	8,282	6,316	7,371	11,706	12,142	11,726	8,094	8,634	6,312	10,233	6,245	6,160	5,868
1941	8,071	7,372	11,453	12,450	12,821	10,470	8,042	7,802	8,448	3,051	4,473	5,972	5,808
1942	11,027	10,941	7,714	7,318	7,774	7,168	8,549	6,756	11,263	3,090	4,477	10,665	5,424
1943	11,027	10,941	8,451	7,457	8,023	7,200	8,549	6,041	6,754	5,054	5,998	5,314	5,314
1944	9,711	10,399	7,368	11,423	12,388	8,365	4,020	3,974	6,624	11,287	6,764	6,074	5,680
1945	8,969	10,941	11,420	11,287	8,523	8,523	5,882	5,056	7,468	9,096	5,883	6,359	5,868
1946	10,559	10,941	11,521	11,968	11,706	9,016	5,884	5,356	7,026	11,287	7,099	6,440	6,020
1947	8,226	8,384	11,304	10,935	10,454	8,216	4,338	3,896	5,432	11,287	6,380	5,766	5,766
1948	9,681	7,999	7,568	10,908	6,428	6,020	6,442	7,708	8,266	11,287	10,786	5,768	5,768
1949	11,027	9,195	8,587	7,038	11,530	4,946	4,852	6,202	10,058	5,789	6,545	5,415	5,415
1950	9,168	7,076	6,630	11,566	11,762	8,645	5,928	5,394	7,002	11,287	6,346	5,886	5,886
1951	11,027	10,941	11,853	12,729	10,612	8,652	6,244	6,974	6,294	11,287	9,071	6,609	6,485
1952	9,088	10,941	11,304	12,729	12,449	7,510	7,257	8,302	9,852	8,454	5,837	11,243	6,367
1953	9,948	7,887	7,688	4,818	4,822	6,543	5,948	7,490	10,551	7,678	5,864	8,801	4,892
1954	11,027	10,941	10,684	11,943	4,524	4,524	3,534	3,938	6,550	11,287	9,586	6,720	5,675
1955	7,849	10,941	11,253	11,636	11,729	12,672	8,442	7,588	8,756	11,287	7,614	5,675	5,675
1956	7,994	7,771	11,303	12,29	12,672	7,670	5,786	5,596	6,742	11,287	11,243	6,264	6,264
1957	11,027	10,778	7,452	11,375	8,292	7,670	4,190	4,916	5,922	11,287	7,038	5,980	5,980
1958	11,027	10,941	11,372	11,810	11,057	8,055	8,859	8,756	10,769	5,892	7,175	11,243	6,487
1959	11,027	9,798	7,159	5,733	6,424	3,764	3,928	5,924	11,287	7,941	6,958	4,875	4,875
1960	8,999	6,801	11,154	9,364	11,792	7,304	3,798	3,398	5,618	11,287	10,483	6,543	5,580
1961	8,732	8,172	10,870	9,056	11,685	7,304	3,570	4,916	5,568	11,287	7,334	6,601	5,496
1962	8,462	6,874	10,388	7,553	12,255	10,191	4,190	4,916	5,922	11,287	7,334	6,858	5,502
1963	11,027	10,941	11,266	11,463	9,220	8,674	8,098	8,356	7,036	10,061	6,061	8,196	6,276
1964	11,027	10,941	10,271	11,259	6,438	5,072	3,624	3,930	5,614	11,287	7,408	5,586	5,586
1965	7,200	10,360	11,308	12,729	11,966	8,487	8,550	8,674	6,322	11,287	6,992	6,517	6,377
1966	11,027	10,941	11,556	12,073	8,468	7,804	5,072	4,860	5,914	11,287	6,640	6,121	5,935
1967	8,718	10,672	11,526	11,916	10,784	6,352	7,644	7,644	10,775	10,775	11,287	11,243	6,306
1968	9,342	7,641	6,876	4,239	4,835	6,480	4,666	3,870	5,924	11,287	7,538	6,684	4,499
1969	9,074	8,547	11,249	12,373	11,632	6,647	6,727	7,690	9,600	6,578	5,360	11,243	5,871
1970	11,027	7,887	7,427	4,700	4,822	6,543	5,990	4,706	6,268	11,287	6,324	6,526	4,757
1971	9,054	10,941	11,411	11,618	9,028	10,190	6,116	7,704	9,028	11,287	6,640	10,061	6,326
1972	11,027	10,941	11,264	10,891	8,473	8,443	4,578	3,924	5,870	11,287	11,287	6,022	6,314
1973	10,113	10,941	11,250	11,573	12,382	7,836	6,772	6,930	7,786	11,287	6,124	6,124	5,871
1974	10,863	10,941	11,352	11,037	8,319	8,492	8,550	8,701	8,864	8,065	6,913	11,243	6,270
1975	11,027	10,941	9,893	7,640	6,018	7,644	8,266	8,756	9,670	6,241	11,243	5,935	5,935
1976	11,027	10,941	10,586	8,462	8,468	6,038	3,070	3,268	5,896	7,623	3,547	4,042	4,874
1977	5,434	6,433	11,057	4,844	6,067	4,197	2,825	2,394	1,076	1,817	941	3,580	2,956
1978	4,415	3,326	10,812	10,563	5,453	5,280	6,313	6,656	6,613	2,839	4,473	8,219	4,131
1979	11,027	10,941	6,631	10,707	7,836	8,114	6,604	6,512	8,100	8,864	5,187	6,117	5,553
1980	7,828	10,941	11,332	12,621	8,081	6,096	6,262	6,772	5,681	3,232	4,873	10,445	4,442
1981	11,027	10,941	9,165	7,318	7,774	7,239	5,026	3,874	5,584	11,287	7,551	6,005	5,345
1982	8,382	10,941	11,217	12,015	11,725	8,742	8,607	9,742	11,277	8,589	8,123	11,243	6,708
1983	11,027	8,298	7,936	6,107	4,628	4,948	6,594	6,273	7,679	7,796	10,177	8,388	5,028
1984	7,062	5,299	5,242	3,218	4,144	6,341	6,341	6,270	5,104	6,664	10,505	5,856	10,243
1985	11,027	10,941	11,708	7,800	8,028	7,408	3,696	4,418	5,480	11,287	10,258	6,439	4,078
1986	8,726	7,912	11,320	11,410	12,821	10,247	8,347	7,354	6,322	6,447	5,051	8,075	5,666
1987	11,027	8,936	7,785	9,199	9,758	10,838	3,800	3,456	5,584	11,287	8,755	6,020	5,565
1988	6,587	6,114	11,175	6,370	4,724	2,964	3,114	5,768	7,321	4,885	3,498	4,355	4,355
1989	4,627	5,403	6,928	8,317	11,402	5,466	4,050	5,500	11,287	11,287	6,501	5,006	5,006
1990	5,470	3,927	7,841	11,255	6,076	4,468	3,620	2,804	5,804	7,330	5,021	3,857	3,953
1991	4,665	3,854	5,073	6,171	6,384	3,790	2,873	5,453	5,022	4,228	4,454	3,654	3,654
Average	8,785	8,654	9,631	10,061	8,789	7,666	5,854	5,699	6,842	8,898	6,832	7,101	5,402

Table A3-4b. Adjustments to DWRSIM Delta Exports:  
DeltaSOS Adjustments (cfs)

Water Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total (TAF)
1922	1	0	(55)	(45)	(121)	1,343	919	1,194	3	2	0	0	195
1923	253	339	(51)	3,209	0	2	714	535	(2)	(2)	0	0	300
1924	0	0	(40)	0	0	2	678	0	1	1	0	0	61
1925	0	(2)	(2)	(2)	(129)	0	562	464	2	1	0	0	23
1926	0	339	(60)	(39)	(129)	0	678	0	1	1	0	0	362
1927	0	339	(56)	(42)	3,003	3,504	1,056	479	1	0	0	0	406
1928	0	0	(0)	(0)	0	2,698	808	0	0	0	0	0	0
1929	1	(1)	(1)	(1)	(1)	(104)	0	0	0	0	0	0	0
1930	0	(1)	(1)	(1)	(1)	(1)	0	0	0	0	0	0	0
1931	0	0	(59)	(39)	(1)	1	0	0	0	0	0	0	0
1932	1	1	(1)	(1)	(1)	1	0	0	0	0	0	0	0
1933	1	1	(1)	(1)	(1)	1	0	0	0	0	0	0	0
1934	1	1	(1)	(1)	(1)	1	0	0	0	0	0	0	0
1935	0	0	(1)	(1)	(1)	1	0	0	0	0	0	0	0
1936	1	1	(1)	(1)	(1)	1	0	0	0	0	0	0	0
1937	1	1	(1)	(1)	(1)	1	0	0	0	0	0	0	0
1938	0	0	(57)	(47)	4,258	4,505	3,188	3,152	1,023	(1)	0	0	37
1939	253	535	3,666	4,417	2,637	(1)	1,056	541	(1)	0	0	0	693
1940	0	1	(41)	(49)	(121)	1,230	3,238	(268)	(1)	0	0	0	0
1941	0	0	(56)	(49)	5,130	4,926	4,155	1,401	1,194	(1)	0	0	385
1942	253	339	2,928	5,057	4,677	4,500	1,401	0	0	0	0	0	1,281
1943	253	0	(1)	(1)	(136)	1,097	0	0	0	0	0	0	1,154
1944	1	1	(56)	(44)	0	1,776	2,938	583	629	(1)	0	0	57
1945	0	0	(59)	(44)	0	0	0	584	0	0	0	0	354
1946	0	0	(1)	(1)	0	0	1	380	0	0	0	0	49
1947	1	1	(1)	(1)	2	0	0	0	672	0	0	0	63
1948	0	0	(1)	(1)	0	0	1	0	0	0	0	0	0
1949	1	1	(2)	(1)	0	0	0	0	0	0	0	0	0
1950	2	339	(153)	(29)	1,970	2,809	609	513	0	0	0	0	26
1951	1	339	(58)	(29)	13	3,989	2,693	1,648	1,428	(1)	0	0	365
1952	1	339	3,393	3,705	7,448	5,786	2,157	625	392	(1)	0	0	37
1953	1	2	(59)	(58)	(41)	0	1	406	372	(1)	0	0	606
1954	253	339	0	(1)	(29)	28	3,019	888	1,194	(1)	0	0	1,496
1955	2	339	0	(1)	(1)	0	0	0	451	0	0	0	651
1956	253	0	(57)	(42)	1,449	3,645	2,421	1,194	511	(1)	0	0	1,496
1957	253	339	663	6499	6,499	4,672	1,449	0	0	0	0	0	475
1958	253	3,302	(61)	(1)	(129)	0	0	0	0	0	0	0	587
1959	1	1	(1)	(1)	(128)	0	0	0	0	0	0	0	927
1960	1	1	(1)	(1)	(134)	0	0	0	0	0	0	0	(12)
1961	1	1	(1)	(1)	(1)	0	0	0	0	0	0	0	(8)
1962	1	1	0	(1)	(1)	0	0	0	0	0	0	0	0
1963	253	339	(1)	(1)	(1)	0	0	0	0	0	0	0	477
1964	253	339	(1)	(1)	(29)	0	0	0	0	0	0	0	477
1965	1	339	(58)	(54)	4,422	7,460	6,991	4,788	1,400	(1)	0	0	53
1966	1	339	(53)	(43)	2,669	2,724	5,109	551	1,822	1,023	(1)	0	81
1967	1	339	(2)	(1)	1,908	1,908	5,109	2,306	0	0	0	0	396
1968	1	3,639	(2)	(1)	4,422	7,460	6,991	4,788	0	0	0	0	370
1969	0	4,422	(59)	(48)	1,058	5,053	3,223	3,590	1,680	1,023	(1)	0	760
1970	253	3,393	8,000	7,878	4,918	5,109	1,400	0	0	0	0	0	1,746
1971	1	339	(56)	(40)	0	1,078	534	676	0	0	0	0	152
1972	253	175	(59)	(67)	1,499	2,825	2,825	648	513	0	0	0	323
1973	253	339	(59)	(40)	(117)	3,864	6,593	3,817	937	1,194	1,194	0	310
1974	0	339	(57)	(60)	962	3,690	2,970	1,400	736	0	0	0	1,761
1975	253	339	1,372	15	716	0	0	0	0	0	0	0	876
1976	0	339	(1)	1	0	0	0	0	0	0	0	0	37
1977	0	0	1	1	1,467	6,967	6,209	3,637	1,831	0	0	0	607
1978	253	339	(1)	(1)	1,142	4,864	3,532	636	527	(1)	0	0	1,212
1979	1	339	(57)	(79)	4,619	5,604	1,802	(256)	0	0	0	0	680
1980	1	189	2,284	4,511	3,484	4,101	1	0	0	0	0	0	731
1981	253	189	(44)	(975)	975	2,958	2,673	1,538	1,538	0	0	0	890
1982	0	339	(60)	(40)	(40)	0	0	0	0	0	0	0	0
1983	253	2,982	3,764	8,072	6,752	6,752	4,686	5,007	3,601	3,484	3,484	0	37
1984	4,218	5,981	6,458	6,458	9,482	8,556	5,359	611	1,380	1,103	1,103	0	2,892
1985	253	339	(50)	(50)	210	1,453	2,933	0	(544)	(333)	(333)	0	2,964
1986	1	(1)	(1)	(1)	(1)	383	0	0	0	0	0	0	2,533
1987	223	1	(1)	(1)	(1)	0	0	0	0	0	0	0	218
1988	1	2	(1)	(1)	(1)	0	0	0	0	0	0	0	36
1989	1	0	(1)	(1)	(1)	0	0	0	0	0	0	0	(6)
1990	2	0	(1)	(1)	(1)	0	0	0	0	0	0	0	18
1991	1	1	(1)	(1)	(1)	0	0	0	0	0	0	0	(4)
Average	179	453	507	1,144	1,698	1,754	843	510	132	54	15	46	442

Table A3-4c. Adjustments to DWRSIM Delta Exports:  
DeltaSOS Adjusted Exports (cfs)

Water Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total (TAF)
1922	6,551	6,936	11,417	12,101	12,700	11,700	8,921	9,950	11,280	3,359	4,477	6,503	6,380
1923	11,280	11,280	11,627	12,700	6,095	8,428	6,801	6,526	11,280	11,280	6,368	6,491	6,380
1924	8,063	7,486	11,005	11,534	8,040	4,125	2,791	4,361	6,479	4,893	3,592	4,539	5,796
1925	8,500	6,640	8,870	7,295	11,633	6,252	6,610	5,128	5,524	11,280	7,966	5,969	5,757
1926	9,170	6,930	7,644	11,444	11,633	6,252	7,380	5,650	6,543	11,280	5,802	6,115	6,604
1927	8,909	11,280	11,134	11,309	12,097	11,461	9,150	8,523	6,457	7,379	7,563	6,299	6,734
1928	9,387	11,280	11,307	11,732	11,320	11,268	8,180	5,835	6,313	11,280	4,096	5,051	4,564
1929	6,854	8,670	10,447	9,695	8,462	4,050	3,042	3,207	9,560	2,784	3,271	5,000	5,195
1930	7,525	5,920	9,098	11,428	6,331	3,589	3,538	5,720	5,720	3,390	3,456	3,327	3,456
1931	5,125	4,536	5,711	10,046	6,381	4,263	3,169	2,668	4,266	5,067	537	5,359	4,272
1932	6,132	5,385	11,176	11,427	9,746	3,147	5,097	4,103	2,463	3,427	3,448	3,468	3,678
1933	5,086	5,070	6,015	11,380	7,285	4,810	3,759	3,490	5,464	4,369	854	854	854
1934	4,431	3,666	8,873	11,469	6,393	5,615	3,660	2,996	5,676	4,096	671	3,537	3,734
1935	4,288	7,523	8,069	11,721	6,331	5,529	5,150	8,231	11,280	8,984	5,890	5,986	5,986
1936	7,317	6,838	7,642	11,820	12,700	11,461	7,857	6,613	6,491	11,280	6,202	6,202	6,202
1937	6,716	6,435	9,925	11,101	12,700	11,700	8,946	6,490	5,820	6,809	5,083	5,890	5,890
1938	7,040	11,280	11,294	12,304	12,700	11,700	9,950	11,280	4,910	4,730	11,280	7,215	7,215
1939	11,280	11,400	11,036	7,754	5,393	4,175	3,873	5,615	11,280	7,509	5,362	5,781	5,781
1940	8,282	6,314	7,372	11,665	12,009	11,461	9,150	6,835	6,313	11,280	10,293	6,456	6,456
1941	8,071	7,372	11,397	12,401	12,700	11,700	11,280	9,950	8,448	3,055	4,474	9,693	6,660
1942	11,280	11,280	11,578	12,448	12,700	11,700	9,950	11,262	3,091	4,477	10,666	7,230	7,230
1943	11,280	11,379	12,514	12,700	11,700	9,950	6,042	6,754	5,999	6,720	6,712	6,712	6,712
1944	9,710	10,399	7,368	11,422	12,252	9,462	4,020	3,973	6,623	6,764	6,075	5,986	5,986
1945	8,970	10,940	11,364	11,286	12,700	11,461	6,465	5,685	7,467	9,097	5,882	6,359	6,487
1946	10,559	11,280	11,468	11,924	7,309	9,016	6,468	5,355	7,026	11,280	7,098	6,441	6,340
1947	8,226	8,383	11,303	10,935	10,454	8,217	4,338	3,896	5,432	11,280	9,072	6,032	6,032
1948	9,681	7,999	7,769	10,910	6,428	6,021	6,822	8,386	10,551	7,677	5,864	8,801	8,801
1949	11,027	9,194	8,590	8,686	7,038	11,289	5,499	4,852	6,202	10,786	6,545	5,709	5,709
1950	9,169	7,074	6,629	11,526	11,633	8,644	6,552	5,395	7,001	11,280	11,280	6,346	6,177
1951	11,029	11,280	11,700	12,700	12,582	11,461	6,853	7,487	6,294	11,280	9,072	7,131	7,131
1952	9,089	11,280	11,246	12,700	12,462	11,499	9,950	11,280	8,453	5,837	11,280	7,533	7,533
1953	11,280	11,393	12,266	10,608	8,700	6,573	7,882	10,551	7,677	5,864	8,801	6,761	6,761
1954	11,280	11,684	11,460	11,633	11,280	8,380	6,762	6,202	11,280	9,589	6,720	7,024	7,024
1955	7,851	11,280	11,595	9,443	4,525	3,940	4,310	6,550	11,280	11,280	7,615	6,077	6,077
1956	7,992	7,771	11,243	12,700	12,700	11,461	8,476	9,950	10,010	8,475	6,273	7,129	7,129
1957	11,280	10,777	7,451	11,375	11,896	11,268	5,786	6,047	6,742	11,280	11,280	6,634	6,634
1958	11,280	11,315	11,768	12,506	11,700	11,280	9,950	11,280	5,891	7,174	11,280	7,634	7,634
1959	11,280	8,456	11,831	12,232	6,425	3,764	3,927	5,923	11,280	7,940	6,959	6,103	6,103
1960	9,000	6,800	10,993	9,363	11,663	7,956	3,799	3,398	5,618	11,280	10,482	5,844	5,844
1961	8,733	8,171	10,868	9,055	11,557	7,300	3,571	3,408	5,568	11,280	9,615	6,601	6,601
1962	8,463	6,874	10,368	7,554	12,121	10,191	4,189	4,916	5,922	11,280	7,335	5,788	5,788
1963	11,280	11,280	11,207	11,424	12,009	11,463	9,150	7,036	10,061	6,060	8,197	7,129	7,129
1964	11,280	10,270	11,562	6,438	5,073	3,624	3,928	5,613	11,280	7,940	5,967	6,103	6,103
1965	7,201	10,359	11,250	12,700	12,009	8,486	9,950	8,673	6,321	11,280	6,993	6,518	6,732
1966	11,280	11,503	12,62	11,137	10,528	5,623	4,859	5,914	11,280	10,628	6,633	6,798	6,798
1967	8,719	10,670	11,472	11,873	12,692	11,461	9,950	11,280	10,628	10,628	10,628	10,628	10,628
1968	11,280	11,280	11,699	11,826	11,268	4,666	3,869	5,923	11,280	7,537	6,685	6,544	6,544
1969	9,074	8,545	11,190	12,325	12,700	11,700	9,950	11,280	6,577	5,359	11,280	7,306	7,306
1970	11,280	11,583	12,700	12,700	11,461	5,991	5,086	6,267	11,280	6,324	6,526	6,777	6,777
1971	9,055	11,355	11,578	9,028	11,268	6,650	8,380	9,027	11,280	6,639	10,062	6,965	6,965
1972	11,280	11,116	11,568	9,972	11,268	4,580	3,924	5,869	11,280	11,280	7,294	6,666	6,666
1973	10,115	11,191	11,533	12,265	11,700	7,420	7,443	7,787	11,110	6,123	6,867	6,919	6,919
1974	10,863	11,280	11,295	11,999	12,009	11,462	9,950	9,437	8,864	8,055	6,912	7,436	7,436
1975	11,280	11,280	11,265	11,396	12,611	11,461	9,203	9,950	10,439	9,669	6,240	11,280	7,596
1976	11,280	10,586	8,477	9,184	6,038	3,072	3,267	5,896	7,623	3,547	4,042	5,079	5,079
1977	5,434	6,432	11,058	4,844	6,067	4,198	2,825	2,395	1,076	1,818	941	3,580	3,053
1978	4,414	3,326	10,813	12,420	11,420	9,950	8,573	6,613	2,839	4,473	8,219	5,719	5,719
1979	11,280	6,330	11,849	12,700	11,646	7,240	7,039	8,099	8,865	5,186	6,118	6,485	6,485
1980	7,829	11,280	11,275	12,700	11,700	8,064	6,516	5,682	3,233	4,873	10,445	6,404	6,404
1981	11,280	11,130	11,829	11,258	11,340	5,027	3,873	5,534	11,280	7,550	6,006	6,477	6,477
1982	8,382	11,280	11,157	11,971	12,700	11,700	11,280	11,280	8,588	8,123	11,280	7,773	7,773
1983	11,280	11,280	11,700	12,700	11,700	11,280	11,280	11,280	11,280	11,280	11,280	8,377	8,377
1984	11,280	11,280	11,700	12,700	11,681	6,484	6,663	10,505	5,857	10,243	7,109	6,604	6,604
1985	11,280	11,658	11,797	8,238	7,407	4,018	4,417	5,479	11,280	10,259	6,439	6,239	6,239
1986	8,727	7,911	11,262	12,700	11,700	8,180	6,810	6,321	6,446	5,051	8,075	6,486	6,486
1987	11,250	8,934	7,784	9,199	9,758	11,221	3,800	3,455	5,534	11,280	8,755	6,020	5,844
1988	6,588	6,114	11,236	6,370	4,723	2,965	3,114	5,766	7,320	4,886	3,497	4,440	4,440
1989	6,629	6,929	8,317	6,836	11,130	6,052	4,049	5,500	11,280	6,500	6,500	5,296	5,296
1990	5,470	7,842	11,219	6,075	3,621	2,804	2,804	5,803	5,022	4,228	4,543	4,063	4,063
1991	4,686	3,855	6,170	6,170	11,079	3,783	2,873	5,452	5,022	4,228	4,543	3,804	3,804
Average	8,955	9,107	10,138	11,205	10,487	9,420	6,697	6,209	6,974	8,952	6,847	7,147	6,154

Table A3-5. DeltaSOS Mean Annual Simulation Output  
for the No-Project Alternative

Water Year	Sac Basin Year Type	SJR Basin Year Type	Added Sac Flow (TAF)	New Sac Flow (TAF)	Required SJR Flow (TAF)	Added SJR Flow (TAF)	New SJR Flow (TAF)	Steam & Sutter Flow (TAF)	DCC Rio Vista Reduction (TAF)	Revised DCC Flow (TAF)	Revised Georgiana & DCC (TAF)	Rio Vista Flow (TAF)	Revised QWEST Initial Export (TAF)	
1922	2	1	0	15,237	1,682	0	3,037	4,804	0	949	3,631	11,586	799	
1923	3	2	0	14,489	1,663	73	2,564	4,395	0	1,567	4,039	10,425	440	
1924	5	5	0	8,586	820	4	2,261	2,261	32	1,115	2,902	5,437	(1,155)	
1925	4	3	0	12,064	1,213	29	1,491	3,509	0	1,438	3,630	9,040	(692)	
1926	4	4	0	11,614	1,159	0	1,511	3,338	0	1,419	3,554	8,157	(1,062)	
1927	1	2	0	19,015	1,663	71	1,963	6,229	0	1,355	4,551	17,527	(300)	
1928	2	2	0	18,455	1,295	30	1,736	6,051	0	1,477	4,542	14,653	(911)	
1929	5	5	0	8,696	820	2	1,306	2,314	42	1,147	2,939	5,573	(1,046)	
1930	5	5	0	10,768	816	28	1,168	3,052	0	1,269	3,310	7,368	(312)	
1931	4	4	0	6,775	790	2	1,651	2,775	91	1,875	4,453	4,103	(312)	
1932	5	4	2	8,618	1,244	0	1,655	2,274	0	1,142	2,924	5,630	283	
1933	5	5	4	7,535	1,004	0	1,388	1,931	97	908	2,579	(350)	(535)	
1934	5	5	4	8,173	820	4	1,205	2,172	66	916	2,653	5,386	(447)	
1935	3	3	5	23,780	1,759	0	3,677	8,157	29	1,301	3,593	9,935	(397)	
1936	3	3	5	13,335	1,663	80	2,221	3,996	0	1,365	3,727	10,821	111	
1937	3	3	5	12,426	1,682	56	2,860	3,671	0	1,290	3,547	8,936	780	
1938	4	1	1	28,779	1,759	78	3,229	6,984	0	1,426	4,820	17,571	3,244	
1939	4	1	1	10,712	1,004	0	1,388	1,931	97	908	2,579	(1,189)	(580)	
1940	2	2	4	17,638	1,663	78	1,973	5,687	0	1,498	4,403	17,640	75	
1941	4	1	1	23,780	1,759	0	3,677	8,157	29	1,301	5,188	27,629	2,926	
1942	4	1	1	25,353	1,759	0	1,607	3,089	0	1,438	3,480	7,285	(1,609)	
1943	4	1	1	20,972	1,759	78	3,229	6,984	0	1,426	4,820	17,571	3,244	
1944	4	4	4	11,388	1,140	45	1,688	3,253	1,423	1,423	3,523	9,005	(269)	
1945	3	3	2	12,566	1,507	77	2,321	3,714	0	1,386	3,653	9,935	(90)	
1946	3	3	2	16,177	1,507	50	2,071	5,102	4,173	4,173	13,192	(1,609)	(1,609)	
1947	4	4	2	10,949	1,056	50	1,607	3,089	0	1,438	3,480	7,285	(1,455)	
1948	3	3	3	13,098	1,140	3	1,421	3,868	1,630	1,630	3,917	8,948	(1,455)	
1949	4	4	3	11,993	1,140	49	1,472	3,503	1,421	1,421	3,616	8,292	(1,064)	
1950	3	3	3	12,811	1,192	0	1,693	3,774	1,525	1,525	3,793	8,851	(1,185)	
1951	2	2	3	21,672	1,663	80	2,663	7,244	1,526	1,526	5,004	18,363	(1,932)	
1952	1	1	2	28,323	1,759	0	3,023	9,970	1,83	1,83	5,647	24,889	2,938	
1953	1	1	2	18,839	1,295	0	1,965	6,162	1,240	1,240	4,362	16,711	(765)	
1954	2	2	3	19,873	29	1,601	1,690	1,575	1,575	4,778	15,591	(551)	(551)	
1955	4	2	3	11,447	1,056	9	1,374	3,263	1,488	1,488	3,587	7,775	(1,441)	
1956	5	5	4	21,768	1,759	27	1,812	9,182	1,623	1,623	4,175	24,889	2,938	
1957	1	1	2	15,092	1,244	1,759	1,812	1,243	1,243	5,417	29,617	2,997	(765)	
1958	1	1	2	26,266	1,759	1,59	1,800	4,523	1,536	1,536	4,064	10,754	88	
1959	3	3	3	14,716	1,159	69	1,800	4,523	1,78	1,78	3,756	3,756	(1,394)	
1960	4	4	5	11,339	872	30	1,247	3,228	1,455	1,455	3,546	7,825	(1,673)	
1961	4	4	5	14,459	842	40	1,179	3,280	1,434	1,434	3,545	7,844	(1,739)	
1962	3	3	5	12,372	1,110	45	1,520	3,632	1,418	1,418	3,656	9,182	(975)	
1963	1	1	4	20,611	1,585	0	1,934	6,877	1,84	1,84	4,566	18,800	(43)	
1964	1	1	4	12,397	1,056	36	1,394	3,615	1,540	1,540	3,756	8,495	(1,394)	
1965	1	1	4	19,519	1,759	80	2,404	6,453	1,378	1,378	4,592	19,247	734	
1966	4	4	5	13,901	1,244	49	2,011	4,172	1,502	1,502	4,932	10,033	(984)	
1967	3	3	5	22,181	1,759	0	3,304	7,439	1,144	1,144	4,729	19,913	1,922	
1968	1	1	4	15,971	1,211	49	1,709	5,020	1,525	1,525	4,226	12,181	681	
1969	1	1	4	20,611	1,759	0	1,934	6,877	1,543	1,543	5,297	23,945	5,665	
1970	1	1	4	21,543	1,585	74	0	5,442	1,506	5,006	5,006	24,373	3,727	
1971	1	1	5	20,939	1,295	0	1,732	6,908	1,583	1,583	4,932	16,920	(210)	
1972	3	3	1	13,210	1,107	0	1,515	3,920	1,524	1,524	3,842	9,253	(1,574)	
1973	1	1	2	19,810	1,663	78	2,252	6,529	1,487	1,487	4,717	18,433	681	
1974	1	1	2	29,264	1,759	0	4,818	10,392	1,580	1,580	6,144	30,030	2,113	
1975	1	1	2	10,440	1,682	0	2,310	6,784	1,674	1,674	4,962	16,153	894	
1976	5	5	1	820	9	1,169	2,943	4	1,324	3,307	6,917	(1,287)	(1,287)	
1977	5	5	1	13,790	1,703	36	1,821	4,291	2,391	2,391	4,233	4,233	(453)	
1978	2	2	1	16,859	1,729	0	2,267	5,405	1,050	1,050	4,226	15,113	2,146	
1979	3	3	2	13,993	1,663	78	2,378	4,235	0	1,449	3,884	10,011	330	
1980	2	2	1	18,292	1,759	0	6,032	1,481	1,267	1,267	4,353	19,356	4,215	
1981	4	4	1	13,093	1,211	49	3,885	1,486	3,765	3,765	9,162	(461)	(461)	
1982	5	5	1	29,591	1,759	3	5,389	10,473	1,562	1,562	6,157	30,065	6,928	
1983	1	1	4	35,577	1,759	0	15,726	12,980	1,050	1,050	6,551	42,561	2,156	
1984	2	2	4	23,213	1,585	74	6,524	7,985	1,190	1,190	4,958	22,157	8,203	
1985	1	1	4	13,038	1,107	50	3,861	3,861	3,793	3,793	9,191	(615)	(615)	
1986	1	1	4	18,958	1,682	4,818	6,463	1,646	1,300	4,534	23,167	4,966		
1987	4	4	5	10,952	1,661	0	3,102	0	1,383	3,437	7,300	(1,295)	(1,295)	
1988	5	5	5	9,416	1,020	6	2,563	3,442	31	1,161	3,048	6,236	(986)	
1989	4	4	5	11,782	842	31	1,036	2,288	52	1,324	3,490	8,090	(1,334)	
1990	5	5	5	8,612	816	37	995	2,286	29	1,072	2,868	5,561	(589)	
Average				0	15,998	1,336	27	2,428	5,091	8	1,347	4,090	13,793	862

Notes: Definitions of the categories are provided in Table A2-3 in Appendix A2.

Water-year types: 1=wet, 2=above normal, 3=below normal, 4=dry, 5=critically dry

Negative values shown in parentheses.

Table A3-5. Continued

Water Year	Reduced Export for QWEST (TAF)	Initial Collinsville Outflow (TAF)	Initial Chippewa Outflow (TAF)	Required Delta Outflow (TAF)	Revised Monitor Flow (TAF)	Reduced Export for Outflow (TAF)	Export Limits (TAF)	Reduced Export for Outflow (TAF)	Export Limits for Outflow (TAF)	Net Export Change (TAF)	Adjusted Total Export (TAF)	Revised QWEST Flow (TAF)	Revised Collinsville Outflow (TAF)	Revised QWEST Outflow (TAF)
1922	0	12,296	11,366	6,103	930	0	8,364	13	195	6,380	604	12,101	10,478	
1923	0	10,778	9,892	5,833	886	0	9,521	4	300	6,491	140	10,478	4,158	
1924	0	4,155	3,351	4,063	804	-1	5,401	2	(3)	4,539	(1,152)	(1,152)	8,206	
1925	0	8,267	7,406	5,195	861	0	7,312	8	61	5,796	(753)	6,974	4,548	
1926	0	6,997	6,151	5,006	847	0	6,739	11	23	5,757	(1,085)	(1,085)	17,268	
1927	0	17,631	16,661	6,980	969	0	10,720	6	362	6,604	(706)	13,846	4,548	
1928	0	14,252	13,331	6,665	921	0	10,032	6	406	6,734	(911)	6,229	4,548	
1929	0	4,548	3,735	4,418	812	0	5,435	8	60	4,564	(1,037)	3,677	3,677	
1930	0	6,220	5,389	5,052	831	0	6,182	9	9	5,000	(312)	10,803	9,392	
1931	0	3,677	2,877	3,657	800	0	4,306	9	9	3,327	768	9,629	2,877	
1932	0	5,825	4,994	5,190	830	0	5,625	6	125	4,272	158	5,700	4,288	
1933	0	4,288	3,478	4,050	810	0	4,694	0	0	3,678	(351)	4,831	4,831	
1934	0	4,829	4,014	4,532	815	0	4,803	2	2	3,734	(445)	5,635	5,635	
1935	0	9,453	8,560	6,495	893	0	7,432	3	61	5,986	(457)	10,803	10,803	
1936	0	10,852	9,969	6,248	883	0	8,419	25	49	6,202	62	12,946	12,946	
1937	0	9,641	8,767	5,287	874	0	7,752	44	12	5,890	26,463	26,463	26,463	
1938	0	36,915	35,711	8,124	1,024	0	18,482	6	988	7,215	4,892	35,927	35,927	
1939	0	6,496	5,662	4,952	832	0	6,865	1	693	5,781	(1,228)	4,831	4,831	
1940	0	12,939	12,995	12,095	858	0	10,409	27	37	6,456	39	17,614	17,614	
1941	0	17,651	16,673	7,246	979	0	16,412	14	385	6,660	2,540	30,118	30,118	
1942	0	30,504	29,379	7,010	827	0	6,751	14	1,281	7,295	1,487	7,322	7,322	
1943	0	27,745	26,663	6,671	983	0	13,363	0	1,154	6,364	6,712	19,572	19,572	
1944	0	20,726	19,743	7,309	983	0	6,788	57	57	5,986	(1,246)	6,459	6,459	
1945	0	6,496	5,662	4,952	834	0	7,966	49	49	6,487	(622)	8,286	8,286	
1946	0	12,939	12,995	12,095	899	0	11,206	1,1	606	7,533	(139)	12,946	12,946	
1947	0	17,651	16,673	7,246	979	0	15,787	14	63	6,032	(1,609)	5,559	5,559	
1948	0	32,558	31,393	7,010	827	0	7,141	14	651	6,712	(1,517)	7,322	7,322	
1949	0	7,384	6,519	5,487	865	0	6,947	11	26	5,709	(1,081)	7,100	7,100	
1950	0	7,117	6,275	4,921	843	0	7,295	11	365	7,131	(1,567)	7,528	7,528	
1951	0	20,212	19,240	6,326	972	0	14,970	11	606	7,533	2,332	19,847	19,847	
1952	0	27,760	26,664	7,985	1,119	0	12,676	11	606	6,761	(1,240)	27,154	27,154	
1953	0	17,350	16,395	6,080	940	0	1,496	1	61	6,801	(1,502)	6,170	6,170	
1954	0	14,884	13,944	13,021	833	0	7,346	1	61	6,077	(2,044)	26,827	26,827	
1955	0	6,231	5,397	5,051	833	0	17,795	8	306	7,129	(1,240)	9,695	9,695	
1956	0	5,955	5,164	5,221	1,058	0	8,552	9	475	6,761	(1,447)	15,854	15,854	
1957	0	19,504	18,664	5,661	880	0	16,086	1	53	5,967	(2,410)	31,978	31,978	
1958	0	32,556	31,393	7,010	874	0	8,800	12	606	6,103	(889)	9,803	9,803	
1959	0	10,730	9,856	5,294	832	0	6,803	12	606	5,844	(1,661)	6,050	6,050	
1960	0	6,038	5,206	5,203	830	0	6,750	8	606	5,768	(1,380)	6,003	6,003	
1961	0	5,995	5,164	5,097	830	0	7,528	9	475	5,788	(967)	8,118	8,118	
1962	0	7,257	7,257	5,063	852	0	11,162	9	53	5,967	(520)	18,205	18,205	
1963	0	18,682	17,669	7,329	1,012	0	7,804	1	606	6,761	(1,447)	6,931	6,931	
1964	0	12,533	11,860	5,557	894	0	14,496	1	606	6,732	(652)	19,806	19,806	
1965	0	19,887	18,196	6,670	991	0	8,613	1	606	6,798	(1,380)	8,544	8,544	
1966	0	8,940	8,078	5,602	862	0	13,108	1	606	7,625	(1,662)	21,014	21,014	
1967	0	21,774	20,726	7,553	1,048	0	9,256	1	606	6,544	(1,080)	10,992	10,992	
1968	0	12,533	11,860	7,967	1,123	0	16,813	1	606	7,306	(4,789)	26,667	26,667	
1969	0	29,543	28,420	7,967	1,038	0	18,655	1	606	7,707	(1,982)	19,806	19,806	
1970	0	28,011	26,973	5,637	1,038	0	12,449	1	606	6,732	(652)	16,462	16,462	
1971	0	16,614	15,663	7,094	951	0	12,449	1	606	6,798	(1,380)	17,234	17,234	
1972	0	7,556	7,556	5,409	846	0	7,849	1	606	6,761	(1,080)	19,041	19,041	
1973	0	32,058	30,933	6,944	1,125	0	9,256	1	606	6,919	(660)	31,451	31,451	
1974	0	10,250	9,372	5,844	878	0	12,919	1	606	7,436	(1,506)	22,768	22,768	
1975	0	23,499	22,497	6,568	1,001	0	19,746	1	606	7,306	(1,506)	15,848	15,848	
1976	0	5,503	4,682	4,416	821	0	10,903	1	606	1,746	(208)	5,542	5,542	
1977	0	36,948	35,709	7,099	1,239	0	6,343	1	606	5,079	(1,367)	5,542	5,542	
1978	0	17,203	16,242	7,933	962	0	10,117	0	0	3,053	(453)	5,657	5,657	
1979	0	10,250	9,372	5,844	878	0	8,242	0	0	1,210	(934)	15,992	15,992	
1980	0	23,499	22,497	6,568	1,001	0	14,443	0	0	6,485	(350)	9,570	9,570	
1981	0	8,587	7,733	5,844	855	0	7,849	0	0	1,746	(3,484)	4,440	4,440	
1982	0	36,948	35,709	7,099	1,239	0	20,240	0	0	2,964	(1,367)	5,423	5,423	
1983	0	64,116	62,564	6,197	1,552	0	31,346	0	0	5,719	(834)	18,602	18,602	
1984	0	30,260	29,197	5,676	1,062	0	20,548	0	0	6,239	(2,533)	5,669	5,669	
1985	0	8,476	7,623	5,068	853	0	8,383	4	4	1,506	(1,506)	5,626	5,626	
1986	0	28,078	27,026	6,155	1,052	0	14,333	4	4	218	(218)	4,486	4,486	
1987	0	5,888	5,059	4,819	829	0	6,602	0	0	5,844	(5,804)	5,844	5,844	
1988	0	6,144	4,325	4,505	817	0	5,648	0	0	4,440	(4,063)	4,440	4,440	
1989	0	5,291	4,816	4,816	843	0	6,313	0	0	5,295	(5,804)	5,295	5,295	
1990	0	4,615	4,038	4,506	814	0	5,037	17	2	4,063	(4,063)	4,617	4,617	
1991	0	4,038	4,038	4,038	816	0	4,808	4	4	3,804	(3,804)	4,857	4,857	
Average	0	14,562	13,631	5,802	930	0	10,292	7	442	6,154	420	14,120	14,120	

Table A3-5. Continued

Water Year	Available for DW Diversion (TAF)	Delta Storage (TAF)	Delta Storage Export (TAF)	Delta Storage Outflow (TAF)	Final Total Export (TAF)	Final QWEST Flow (TAF)	Final Delta Outflow (TAF)	3-Mile Slough Flow (TAF)	Old River Diversion Flow (TAF)	Final Antioch Flow (TAF)
1922	1,073	0	0	0	0	6,380	604	12,101	2,512	1,587
1923	2,231	0	0	0	0	6,491	140	10,478	2,386	1,369
1924	2	0	0	0	0	4,539	(1,152)	4,158	1,628	825
1925	770	0	0	0	0	5,796	(753)	8,206	2,343	852
1926	427	0	0	0	0	5,757	(1,085)	6,974	2,242	877
1927	2,854	0	0	0	0	6,604	(175)	17,268	4,140	1,038
1928	2,464	0	0	0	0	6,734	(706)	13,846	3,637	996
1929	0	0	0	0	0	4,564	(91)	4,548	1,585	851
1930	281	0	0	0	0	(1,037)	(312)	6,229	2,043	764
1931	0	0	0	0	0	3,327	3,677	1,054	831	1,005
1932	148	0	0	0	0	4,272	158	5,700	1,263	943
1933	0	0	0	0	0	3,673	(351)	4,288	1,218	853
1934	121	0	0	0	0	3,734	(445)	4,831	1,395	805
1935	612	0	0	0	0	5,986	(457)	9,392	2,459	1,131
1936	1,424	0	0	0	0	6,202	62	10,803	2,503	1,192
1937	934	0	0	0	0	5,890	768	9,629	1,842	1,494
1938	8,833	0	0	0	0	4,892	35,927	5,715	3,087	1,421
1939	548	0	0	0	0	5,781	(1,228)	5,635	2,013	995
1940	2,650	0	0	0	0	6,456	39	17,614	4,100	1,046
1941	5,967	0	0	0	0	6,660	2,540	30,118	5,644	2,157
1942	5,141	0	0	0	0	6,032	(1,609)	2,559	2,202	8,185
1943	4,699	0	0	0	0	6,364	(1,517)	2,090	3,441	1,534
1944	45	0	0	0	0	5,986	(1,246)	6,439	2,207	984
1945	880	0	0	0	0	6,487	(622)	8,286	2,294	1,254
1946	2,348	0	0	0	0	6,340	(139)	12,946	3,119	1,135
1947	1	0	0	0	0	6,712	2,090	2,463	5,374	1,534
1948	19	0	0	0	0	7,322	19,572	2,561	806	1,044
1949	449	0	0	0	0	7,100	2,272	842	1,191	950
1950	319	0	0	0	0	7,528	2,443	866	1,231	785
1951	5,184	0	0	0	0	7,131	1,567	19,847	3,789	1,430
1952	6,017	0	0	0	0	7,533	2,332	27,154	5,071	1,548
1953	2,568	0	0	0	0	6,801	(755)	14,233	4,002	908
1954	2,571	0	0	0	0	7,024	(1,203)	6,170	2,283	2,799
1955	701	0	0	0	0	6,077	(1,502)	26,827	5,153	1,711
1956	5,266	0	0	0	0	7,129	(2,044)	9,695	2,963	958
1957	931	0	0	0	0	6,761	(1,240)	31,978	6,148	1,723
1958	6,692	0	0	0	0	7,634	(2,410)	9,803	2,770	8,557
1959	1,805	0	0	0	0	6,103	(859)	6,050	2,345	997
1960	156	0	0	0	0	5,844	(1,661)	6,931	2,434	869
1961	1,213	0	0	0	0	5,768	(1,731)	6,003	2,371	844
1962	822	0	0	0	0	7,129	(520)	8,118	2,444	892
1963	3,051	0	0	0	0	5,967	(1,447)	18,205	4,546	1,021
1964	1,256	0	0	0	0	6,732	(652)	19,806	4,282	802
1965	1,252	0	0	0	0	6,793	(1,380)	8,544	2,771	684
1966	1,213	0	0	0	0	7,625	1,162	21,014	4,278	1,476
1967	4,457	0	0	0	0	6,544	(1,080)	10,992	3,178	957
1968	2,129	0	0	0	0	7,306	4,789	28,667	4,081	3,097
1969	6,435	0	0	0	0	6,777	1,982	26,265	5,060	1,021
1970	5,612	0	0	0	0	6,965	(362)	16,462	4,058	1,632
1971	2,998	0	0	0	0	6,666	(1,896)	7,234	2,751	993
1972	601	0	0	0	0	6,919	1,660	19,041	4,090	902
1973	4,137	0	0	0	0	7,436	1,506	31,451	6,528	1,154
1974	6,240	0	0	0	0	7,596	(208)	15,848	3,831	8,034
1975	2,723	0	0	0	0	5,079	(1,357)	5,423	2,041	1,176
1976	567	0	0	0	0	6,421	(453)	3,657	1,129	755
1977	0	0	0	0	0	5,719	(934)	15,992	3,230	1,158
1978	2,712	0	0	0	0	6,485	(350)	9,570	2,443	1,220
1979	1,050	0	0	0	0	6,404	3,484	22,768	3,420	2,567
1980	5,330	0	0	0	0	7,773	(1,351)	7,698	2,559	1,068
1981	777	0	0	0	0	6,421	(453)	36,441	4,996	1,068
1982	8,661	0	0	0	0	5,127	(453)	15,992	3,230	674
1983	21,445	0	0	0	0	8,377	18,602	6,152	4,091	676
1984	8,816	0	0	0	0	7,109	(566)	27,727	3,388	1,158
1985	1,574	0	0	0	0	6,486	(921)	8,171	2,431	1,220
1986	6,120	0	0	0	0	4,748	(278)	27,860	3,913	2,567
1987	67	0	0	0	0	5,844	(1,331)	5,852	2,119	919
1988	418	0	0	0	0	4,440	(980)	5,148	1,761	885
1989	228	0	0	0	0	6,296	(1,352)	6,626	2,310	646
1990	60	0	0	0	0	4,063	(835)	4,617	1,558	633
1991	4	0	0	0	0	3,804	(585)	4,857	1,478	634
Average	2,572	0	0	0	0	6,154	420	14,120	3,084	1,370
										3,504

Table A3-6. Monthly Percentiles for DeltaSOS Simulations  
for the No-Project Alternative

Added Sacramento River inflow (cfs)

Percentile	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0
80	0	0	0	0	0	0	0	0	0	0	0	0
90	0	0	0	0	0	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0	0	0	0	0	0
Mean	0	0	0	0	0	0	0	0	0	0	0	0

Sacramento River inflow (cfs)

Percentile	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
0	7,061	6,109	9,315	8,254	11,098	10,037	8,048	6,120	6,807	8,808	5,799	7,127
10	8,521	8,705	11,222	12,430	13,896	12,393	9,755	8,869	13,397	12,587	8,916	7,402
20	10,336	10,557	12,482	13,398	15,973	14,909	11,824	10,598	13,747	14,209	10,687	9,332
30	11,298	11,141	14,318	15,674	19,556	19,999	12,871	10,927	14,216	16,305	11,377	9,951
40	12,599	12,398	15,340	17,189	26,157	22,470	13,660	12,536	14,576	17,952	12,298	10,418
50	13,235	14,986	15,966	23,855	33,032	29,013	16,641	14,307	15,378	20,715	12,690	10,674
60	14,049	16,748	17,880	27,227	38,969	32,372	19,089	15,112	15,853	20,917	13,531	11,337
70	16,315	18,590	26,185	34,299	50,420	38,408	21,535	19,632	17,456	21,204	15,120	11,470
80	20,271	21,117	32,528	47,425	61,379	47,850	37,669	30,496	20,583	21,494	17,359	14,725
90	22,815	31,259	57,571	66,163	70,537	65,427	45,150	41,227	26,443	22,569	19,130	18,106
100	29,964	64,593	85,103	91,517	108,473	97,768	78,803	60,752	51,139	23,363	20,168	24,376
Mean	14,883	17,738	24,595	30,990	38,331	34,402	22,815	19,775	18,021	18,504	13,419	12,052

Required San Joaquin River flow (cfs)

Percentile	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
0	1,000	900	900	900	900	900	2,005	2,005	900	900	900	900
10	1,000	900	900	900	900	900	2,005	2,005	900	900	900	900
20	1,500	900	900	900	900	1,330	2,435	2,435	900	900	900	900
30	1,500	900	900	900	1,420	1,420	3,641	2,720	1,420	900	900	900
40	1,500	900	900	900	1,420	2,280	3,880	3,880	1,420	900	900	900
50	1,500	900	900	900	2,130	2,280	3,880	3,880	2,130	900	900	900
60	1,500	900	900	900	2,280	3,420	5,220	5,220	2,280	900	900	900
70	1,500	900	900	900	3,420	3,420	5,220	5,220	3,420	900	900	900
80	1,500	900	900	900	3,420	3,420	6,020	6,020	3,420	900	900	900
90	1,500	900	900	900	3,420	3,420	6,020	6,020	3,420	900	900	900
100	1,500	900	900	900	3,420	3,420	6,020	6,020	3,420	900	900	900
Mean	1,407	900	900	900	2,167	2,425	4,261	4,153	2,253	900	900	900

Additional San Joaquin River inflow (cfs)

Percentile	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0
80	0	0	0	0	0	0	0	13	55	0	0	0
90	44	0	0	0	0	0	0	445	485	1,217	0	0
100	44	0	0	108	900	0	833	1,231	1,289	0	61	305
Mean	7	0	0	2	23	0	89	113	202	0	1	6

New San Joaquin River flow at Vernalis (cfs)

Percentile	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
0	1,456	1,114	1,018	900	900	1,168	2,005	2,005	1,420	973	900	900
10	1,500	1,410	1,254	1,185	1,507	1,424	2,005	2,005	1,786	1,288	961	1,015
20	1,500	1,689	1,494	1,620	2,280	1,735	2,435	2,435	1,810	1,539	989	1,049
30	1,558	1,886	1,661	1,757	2,372	2,280	3,641	2,766	1,822	1,670	1,021	1,109
40	1,695	2,032	1,915	2,086	2,866	2,280	3,988	3,880	1,870	1,675	1,132	1,155
50	1,826	2,287	2,145	2,460	3,421	2,288	3,988	3,933	2,280	1,685	1,473	1,210
60	1,975	2,393	2,291	2,876	3,737	3,420	5,343	5,220	2,819	1,717	1,670	1,336
70	2,000	2,541	2,509	3,164	4,926	3,420	5,343	5,279	3,420	1,831	1,888	1,573
80	2,763	2,687	3,044	4,199	5,974	4,083	6,195	6,105	3,426	1,974	1,960	1,850
90	3,954	2,938	3,667	5,597	8,381	8,398	6,195	6,105	6,759	2,080	2,135	2,814
100	16,954	11,669	19,380	23,241	35,143	42,741	30,300	27,493	30,126	18,015	6,171	10,520
Mean	2,500	2,462	2,773	3,540	4,886	4,753	5,358	5,048	3,580	2,155	1,538	1,698

Note: Negative values shown in parentheses.

Table A3-6. Continued

## Sutter and Steamboat Slough flow (cfs)

Percentile	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
0	1,235	1,202	2,528	2,109	3,208	2,806	2,026	1,207	1,193	1,616	1,067	1,247
10	1,545	2,289	3,255	3,705	4,245	3,691	2,698	2,354	3,018	2,746	1,644	1,299
20	2,037	3,004	3,724	4,062	5,005	4,616	3,480	3,020	3,138	3,297	2,142	1,753
30	2,330	3,225	4,400	4,896	6,316	6,479	3,868	3,144	3,300	4,042	2,354	1,925
40	2,750	3,693	4,774	5,450	8,768	7,391	4,159	3,744	3,426	4,642	2,650	2,061
50	2,963	4,645	5,003	7,906	11,396	9,850	5,249	4,396	3,709	5,667	2,780	2,138
60	3,242	5,288	5,702	9,172	13,728	11,140	6,145	4,691	3,879	5,743	3,064	2,342
70	4,045	5,962	8,779	11,888	18,384	13,505	7,045	6,344	4,460	5,850	3,617	2,384
80	5,502	6,891	11,200	17,148	23,011	17,323	13,213	10,417	5,618	5,959	4,425	3,478
90	6,454	10,710	21,386	25,078	26,989	24,758	16,217	14,631	8,876	6,361	5,077	4,699
100	10,213	24,397	33,495	36,422	44,317	39,307	30,656	22,743	18,683	6,659	5,463	7,040
Mean	3,683	5,696	8,402	10,936	13,842	12,270	7,686	6,485	4,853	4,875	3,105	2,666

## Delta Cross Channel flow (cfs)

Percentile	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
0	0	0	0	0	0	0	0	0	0	3,345	2,172	2,057
10	2,268	0	0	0	0	0	0	0	0	4,310	3,378	2,333
20	3,706	0	0	0	0	0	0	0	4,467	4,643	3,868	3,502
30	3,899	0	0	0	0	0	0	0	4,537	5,034	4,037	3,675
40	4,177	0	0	0	0	0	0	0	4,645	5,319	4,247	3,799
50	4,396	0	0	0	0	0	0	0	4,694	5,771	4,333	3,865
60	4,569	0	0	0	0	0	0	0	4,863	5,803	4,508	4,027
70	4,791	0	0	0	0	0	0	0	4,942	5,848	4,818	4,059
80	5,421	0	0	0	0	0	0	0	5,117	5,894	5,218	4,743
90	6,020	0	0	0	0	0	0	0	5,737	6,062	5,515	5,345
100	6,345	0	0	0	0	0	0	0	6,429	6,185	5,683	6,341
Mean	4,270	0	0	0	0	0	0	0	4,332	5,369	4,387	4,002

## Delta Cross Channel &amp; Georgiana Slough flow (cfs)

Percentile	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
0	3,887	1,992	2,413	2,276	2,640	2,506	2,249	1,994	4,067	5,057	3,445	3,763
10	4,345	2,335	2,655	2,807	2,989	2,802	2,470	2,356	5,657	6,450	5,104	4,023
20	5,571	2,571	2,813	2,927	3,248	3,115	2,731	2,577	6,703	6,946	5,803	5,279
30	5,848	2,645	3,042	3,211	3,697	3,753	2,862	2,618	6,809	7,539	6,048	5,527
40	6,254	2,803	3,169	3,400	4,545	4,068	2,960	2,820	6,948	7,979	6,357	5,704
50	6,577	3,125	3,247	4,246	5,462	4,922	3,331	3,040	7,054	8,686	6,483	5,799
60	6,835	3,345	3,486	4,686	6,279	5,373	3,638	3,141	7,282	8,737	6,744	6,034
70	7,169	3,575	4,549	5,635	7,910	6,201	3,948	3,707	7,415	8,809	7,210	6,080
80	8,137	3,895	5,394	7,477	9,526	7,538	6,098	5,120	7,848	8,882	7,823	7,097
90	9,081	5,223	8,959	10,245	10,908	10,134	7,151	6,595	8,634	9,149	8,284	8,019
100	9,601	10,008	13,153	14,157	16,843	15,142	12,176	9,433	9,735	9,345	8,549	9,595
Mean	6,683	3,497	4,434	5,313	6,322	5,774	4,186	3,772	7,164	8,073	6,589	6,080

## Sacramento River flow at Rio Vista (cfs)

Percentile	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
0	2,953	4,089	6,740	6,042	8,592	7,418	5,496	4,319	1,994	2,906	1,675	2,941
10	3,705	6,207	8,441	9,927	10,978	9,634	7,016	5,990	5,807	5,515	3,226	2,957
20	4,408	7,857	9,545	10,788	12,944	11,705	8,982	7,677	6,092	6,265	4,197	3,621
30	5,117	8,492	11,261	12,575	16,117	16,549	9,852	7,924	6,481	7,766	4,642	3,992
40	5,926	9,475	12,520	14,429	23,651	20,796	10,464	9,184	6,771	9,072	5,387	4,308
50	6,535	12,227	12,891	20,909	28,856	24,838	13,056	10,759	7,197	11,094	5,884	4,635
60	6,960	13,337	14,281	24,113	39,701	27,217	15,832	11,813	7,589	11,178	6,376	5,068
70	8,623	14,780	21,605	31,283	49,850	33,893	18,356	15,423	8,705	11,515	7,521	5,636
80	11,520	17,656	39,472	53,373	63,284	48,640	35,917	24,958	11,103	11,690	8,856	7,196
90	13,457	26,189	60,815	90,087	102,991	79,036	56,006	35,056	20,983	12,792	10,253	9,773
100	33,546	59,943	119,018	171,272	182,736	188,332	103,086	50,877	43,121	13,014	11,291	14,422
Mean	8,152	14,567	24,121	34,262	43,101	35,247	22,163	15,764	10,077	9,535	6,269	5,674

## QWEST Flow with initial exports (cfs)

Percentile	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
0	(4,063)	(6,213)	(7,116)	(6,374)	(4,446)	(3,380)	399	(424)	(5,589)	(4,023)	(3,950)	(3,113)
10	(1,864)	(5,670)	(6,034)	(5,310)	(2,794)	(1,987)	578	(98)	319	(3,591)	(3,475)	(1,612)
20	(1,528)	(5,019)	(5,306)	(4,581)	(1,707)	(1,154)	853	69	507	(3,549)	(2,471)	(1,195)
30	(1,409)	(4,388)	(4,674)	(4,291)	(1,160)	(861)	1,316	160	574	(3,367)	(1,657)	(841)
40	(1,093)	(3,728)	(4,266)	(3,460)	303	(542)	1,487	377	611	(3,024)	(710)	(725)
50	(835)	(3,364)	(3,821)	(2,509)	1,914	369	1,858	773	706	(2,723)	(207)	(578)
60	(446)	(2,986)	(3,255)	(969)	4,225	2,114	2,231	987	824	(1,759)	150	(440)
70	(6)	(2,672)	(2,125)	1,041	7,201	3,977	2,616	1,317	1,052	(380)	480	(371)
80	165	(2,422)	1,605	6,408	11,209	10,138	5,595	2,132	1,629	465	1,012	(261)
90	1,674	(821)	4,215	13,748	14,314	14,661	10,832	4,836	2,730	2,642	1,501	240
100	15,066	23,073	39,958	37,172	59,433	74,009	40,633	33,442	31,816	19,443	2,475	11,767
Mean	(277)	(2,759)	(1,341)	1,715	5,708	5,204	4,426	2,407	1,607	(1,304)	(590)	(493)

Table A3-6. Continued

## Export reductions to meet QWEST standards (cfs)

Percentile	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0
80	0	0	0	0	0	0	0	0	0	0	0	0
90	0	0	0	0	0	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0	0	0	0	0	0
Mean	0	0	0	0	0	0	0	0	0	0	0	0

## Delta outflow at Collinsville (cfs)

Percentile	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
0	2,991	3,537	4,531	4,505	7,799	6,898	5,840	4,506	3,997	4,000	3,414	3,007
10	3,348	4,504	5,232	5,788	9,614	8,555	7,818	6,036	6,117	4,994	3,416	3,008
20	4,002	5,044	5,684	6,289	11,400	10,947	10,252	7,578	6,703	6,699	4,384	3,153
30	4,196	5,293	6,355	7,562	15,573	10,545	7,579	6,895	7,158	5,032	3,398	3,632
40	4,678	5,647	6,838	10,476	22,774	18,364	11,260	10,019	7,578	7,230	5,740	3,817
50	5,023	6,383	7,187	16,808	27,301	24,849	15,372	11,258	7,580	7,826	5,740	3,817
60	5,354	7,859	9,483	22,569	44,691	29,666	18,031	12,903	8,328	8,001	5,741	4,143
70	6,403	10,957	17,107	30,748	59,049	41,729	20,862	17,576	9,270	8,002	5,742	4,359
80	9,792	14,090	40,647	72,356	70,178	59,498	40,512	26,201	11,632	8,004	6,042	5,518
90	15,199	22,851	68,851	102,271	116,586	93,737	63,869	39,710	16,998	9,381	6,722	8,323
100	37,421	83,001	159,165	205,170	219,767	262,789	142,618	83,413	74,553	32,036	9,719	26,031
Mean	7,758	11,740	22,764	36,125	48,912	40,457	26,478	17,951	11,307	7,812	5,388	4,998

## Delta outflow at Chipp's Island (cfs)

Percentile	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
0	695	1,236	2,221	2,195	4,548	4,566	5,921	4,613	4,114	4,117	3,542	3,143
10	1,049	2,194	2,915	3,466	7,257	6,207	7,861	6,113	6,193	5,092	3,544	3,144
20	1,597	2,729	3,363	3,963	9,026	8,577	10,247	7,625	6,956	6,763	4,494	3,287
30	1,889	2,976	4,028	5,521	13,101	12,665	10,534	7,626	7,213	5,129	3,527	3,527
40	2,366	3,326	4,501	8,111	20,295	15,925	11,235	10,011	7,625	7,284	5,394	3,756
50	2,708	4,056	4,852	14,384	24,779	22,350	15,267	11,233	7,627	7,868	5,823	3,938
60	3,036	5,518	7,127	20,091	42,007	27,122	17,874	12,846	8,361	8,040	5,824	4,257
70	4,075	8,587	14,680	28,194	56,232	39,073	20,650	17,428	9,284	8,041	5,825	4,469
80	7,433	11,691	38,001	69,415	67,257	56,677	39,917	25,885	11,600	8,043	6,119	5,605
90	12,790	20,370	65,943	99,024	113,234	90,597	62,819	39,131	16,962	9,393	6,786	8,356
100	34,805	79,961	155,418	200,994	215,455	258,077	140,032	81,981	73,294	31,606	9,724	25,718
Mean	5,417	9,363	20,284	33,521	46,190	37,813	26,156	17,796	11,282	7,854	5,478	5,095

## Required Delta outflow (cfs)

Percentile	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
0	2,992	3,537	4,505	4,505	5,960	6,356	5,841	4,505	4,000	4,001	3,415	3,008
10	3,347	4,504	4,532	5,713	7,670	7,068	7,579	6,036	6,117	4,993	3,415	3,008
20	4,001	4,931	4,885	5,980	8,175	8,765	8,641	7,579	6,703	6,698	4,384	3,074
30	4,001	5,194	5,444	6,001	9,456	9,971	9,569	7,579	7,579	7,157	5,033	3,352
40	4,306	5,464	5,771	6,001	11,276	10,891	10,265	8,034	7,579	7,230	5,302	3,622
50	4,519	5,647	6,139	6,001	11,400	11,400	10,545	9,454	7,579	7,825	5,741	3,791
60	4,904	6,062	6,355	6,001	11,400	12,241	11,259	10,268	8,282	8,002	5,741	4,037
70	5,091	6,312	6,591	6,294	14,676	15,373	12,161	11,259	8,889	8,002	5,741	4,190
80	5,354	6,434	6,832	6,891	19,623	16,464	13,890	14,465	9,994	8,002	5,966	5,436
90	5,615	6,804	7,163	7,210	22,072	19,282	15,372	17,320	12,026	9,358	6,577	5,811
100	7,995	8,016	7,580	8,542	28,559	27,430	22,321	28,043	21,174	9,549	7,521	6,333
Mean	4,625	5,715	6,003	6,275	13,148	12,825	11,353	10,645	8,827	7,442	5,331	4,103

## Montezuma Slough flow (cfs)

Percentile	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
0	2,296	2,301	2,310	2,310	2,341	2,332	(81)	(107)	(117)	(117)	(128)	(136)
10	2,299	2,310	2,317	2,322	2,348	(43)	(77)	(76)	(98)	(128)	(136)	
20	2,305	2,315	2,321	2,326	2,374	2,370	5	(47)	(64)	(64)	(110)	(134)
30	2,307	2,317	2,327	2,341	2,412	2,408	11	(47)	(61)	(55)	(97)	(129)
40	2,312	2,321	2,332	2,365	2,480	2,439	25	0	(47)	(54)	(92)	(124)
50	2,315	2,327	2,335	2,424	2,522	2,499	105	25	(47)	(42)	(83)	(121)
60	2,318	2,341	2,356	2,478	2,684	2,544	157	57	(33)	(39)	(83)	(114)
70	2,328	2,370	2,427	2,554	2,817	2,656	212	148	(14)	(39)	(83)	(110)
80	2,359	2,399	2,646	2,941	2,921	2,821	595	316	32	(39)	(77)	(87)
90	2,409	2,481	2,908	3,219	3,352	3,140	1,050	579	136	(12)	(64)	(33)
100	2,616	3,040	3,748	4,176	4,312	4,712	2,586	1,432	1,259	(5)	(313)	
Mean	2,340	2,377	2,480	2,604	2,723	2,644	321	155	25	(43)	(90)	(98)

Table A3-6. Continued

## Net change in exports (cfs)

Percentile	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
0	(2)	(2)	(153)	(49)	(136)	(338)	(1)	(544)	(3)	(7)	(7)	(1)
10	0	(2)	(59)	(43)	(129)	(63)	0	(1)	(1)	(7)	(7)	0
20	0	(1)	(58)	(40)	(117)	(0)	0	(1)	(1)	(7)	(1)	0
30	0	(1)	(56)	(39)	0	0	1	0	(1)	(7)	(1)	0
40	1	0	(51)	(29)	0	1	380	0	(1)	(7)	(1)	0
50	1	0	(1)	(1)	1	383	584	1	(0)	(1)	0	1
60	1	339	0	0	975	2,698	648	380	0	(1)	0	1
70	253	339	0	15	2,166	2,958	920	527	0	0	0	1
80	253	339	1	1,467	3,604	3,817	1,400	794	0	0	0	1
90	253	339	2,928	4,672	5,786	4,788	2,673	1,538	3	1	1	37
100	4,218	5,981	6,458	9,482	8,556	6,752	4,686	5,007	3,601	3,484	1,103	2,892
Mean	179	453	507	1,144	1,698	1,754	843	510	132	54	15	46

## Export limits (cfs)

Percentile	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
0	5,697	5,051	6,904	6,130	6,075	4,250	3,212	2,782	3,191	6,696	4,635	5,495
10	6,791	6,948	8,718	9,146	6,635	5,073	3,941	3,451	5,520	9,986	6,952	5,698
20	8,076	8,268	9,549	11,101	7,754	6,095	4,568	3,856	5,615	11,313	8,486	7,225
30	8,845	8,975	11,012	11,681	9,746	8,217	5,037	4,310	5,869	12,531	8,939	7,610
40	9,462	9,555	11,869	13,474	11,258	10,191	5,701	5,362	6,085	13,625	9,636	7,730
50	10,095	11,604	12,309	18,120	15,028	12,287	6,573	5,878	6,624	14,885	9,804	8,059
60	10,793	12,774	13,050	20,989	20,184	13,992	7,380	6,581	6,841	14,934	10,180	8,423
70	12,371	14,219	19,023	26,125	24,401	17,475	8,921	7,882	7,036	15,296	10,976	9,092
80	14,542	15,592	32,504	51,223	27,435	23,524	12,799	9,437	8,550	15,367	12,576	11,736
90	17,753	22,475	51,845	68,989	43,998	36,367	16,500	12,708	11,317	16,360	13,404	14,088
100	29,881	57,610	105,728	133,645	79,382	92,174	38,212	29,841	30,225	28,830	15,044	23,568
Mean	11,662	13,820	21,256	29,141	20,700	16,863	8,962	7,503	7,838	13,790	10,050	9,229

## Revised QWEST flow (cfs)

Percentile	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
0	(4,316)	(6,506)	(7,117)	(6,376)	(4,607)	(3,979)	(8)	(529)	(5,589)	(4,016)	(3,943)	(3,113)
10	(1,927)	(6,009)	(6,034)	(5,501)	(3,133)	(2,476)	556	(175)	318	(3,584)	(3,468)	(1,612)
20	(1,554)	(5,629)	(5,554)	(4,913)	(2,329)	(1,918)	836	(19)	509	(3,542)	(2,472)	(1,196)
30	(1,409)	(4,941)	(4,936)	(4,371)	(1,682)	(1,414)	989	125	572	(3,360)	(1,656)	(841)
40	(1,128)	(4,000)	(4,378)	(3,958)	(930)	(766)	1,233	229	585	(3,017)	(709)	(725)
50	(896)	(3,727)	(4,123)	(3,340)	391	(552)	1,448	376	705	(2,722)	(206)	(578)
60	(533)	(3,244)	(3,376)	(2,180)	2,396	(269)	1,564	676	809	(1,759)	151	(440)
70	(128)	(2,946)	(2,371)	(835)	5,231	1,702	1,792	820	959	(380)	480	(372)
80	147	(2,599)	(225)	5,235	7,505	6,274	4,458	1,727	1,543	465	1,012	(276)
90	918	(1,013)	3,831	13,548	11,956	13,431	7,805	3,642	2,730	2,630	1,482	240
100	10,848	17,092	33,500	30,579	51,361	67,257	36,876	28,435	28,215	15,959	2,031	8,875
Mean	(456)	(3,212)	(1,848)	570	4,011	3,450	3,583	1,897	1,475	(1,357)	(604)	(540)

## Revised Delta outflow (cfs)

Percentile	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
0	2,992	3,537	4,532	4,505	7,800	6,897	5,841	4,505	4,000	4,001	3,415	3,008
10	3,347	4,504	5,233	5,788	9,282	8,555	7,579	6,036	6,118	4,993	3,415	3,008
20	4,001	5,044	5,565	6,171	11,400	10,946	10,013	7,579	6,704	6,698	4,384	3,152
30	4,198	5,295	6,315	6,955	13,465	15,072	10,399	7,579	6,896	7,165	5,033	3,397
40	4,675	5,647	6,712	9,472	20,954	18,364	11,259	10,012	7,579	7,237	5,302	3,632
50	5,023	6,383	7,186	16,850	27,430	22,627	14,490	11,235	7,579	7,833	5,741	3,818
60	5,354	7,460	8,499	21,455	41,156	27,716	17,354	12,376	8,327	8,002	5,741	4,142
70	6,150	9,608	17,164	29,456	53,600	38,131	20,075	16,226	9,271	8,002	5,741	4,358
80	9,539	12,002	39,257	72,396	67,389	55,634	38,030	25,407	11,632	8,002	6,042	5,517
90	14,567	22,512	68,904	97,186	115,855	92,507	62,706	38,516	16,995	9,373	6,729	8,286
100	33,203	77,020	152,708	197,170	219,888	256,037	139,945	78,406	70,952	28,552	8,616	23,139
Mean	7,578	11,288	22,257	34,981	47,215	38,703	25,635	17,441	11,175	7,758	5,373	4,951

## Available water for diversion (cfs)

Percentile	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0
40	0	0	0	1,928	0	0	0	0	0	0	0	0
50	0	0	405	6,475	3,132	240	0	0	0	0	0	0
60	0	1,208	1,686	9,289	8,175	2,292	0	0	0	7	0	0
70	641	2,939	7,708	12,865	12,683	6,207	0	0	0	8	0	0
80	3,262	4,312	14,775	20,235	15,427	11,824	3,011	297	0	8	0	0
90	6,473	11,181	18,831	28,548	25,402	21,579	6,864	2,758	37	8	7	2,724
100	18,601	32,092	48,500	45,579	53,947	80,474	26,932	18,561	18,945	17,550	2,875	12,288
Mean	1,913	3,214	6,322	10,174	9,199	7,138	2,063	1,035	672	273	42	638

Table A3-6. Continued

## Delta storage diversion (cfs)

Percentile	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0
80	0	0	0	0	0	0	0	0	0	0	0	0
90	0	0	0	0	0	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0	0	0	0	0	0
Mean	0	0	0	0	0	0	0	0	0	0	0	0

## Delta storage (TAF)

Percentile	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0
80	0	0	0	0	0	0	0	0	0	0	0	0
90	0	0	0	0	0	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0	0	0	0	0	0
Mean	0	0	0	0	0	0	0	0	0	0	0	0

## Delta storage discharge for export (cfs)

Percentile	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0
80	0	0	0	0	0	0	0	0	0	0	0	0
90	0	0	0	0	0	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0	0	0	0	0	0
Mean	0	0	0	0	0	0	0	0	0	0	0	0

## Delta storage discharge for outflow (cfs)

Percentile	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0
80	0	0	0	0	0	0	0	0	0	0	0	0
90	0	0	0	0	0	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0	0	0	0	0	0
Mean	0	0	0	0	0	0	0	0	0	0	0	0

## Final CVP Tracy and SWP Banks exports (cfs)

Percentile	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
0	4,288	3,326	5,072	4,844	4,073	3,147	2,791	2,395	1,076	1,818	537	3,271
10	5,125	5,385	7,368	8,686	6,384	4,525	3,571	3,114	5,464	3,427	3,448	3,592
20	6,854	6,640	7,842	10,935	7,285	6,095	3,789	3,538	5,568	6,446	4,730	5,890
30	7,992	7,372	9,922	11,372	9,184	7,956	4,189	3,928	5,766	7,379	5,083	6,051
40	8,500	8,383	10,868	11,428	11,137	10,191	5,623	4,859	5,923	8,865	5,864	6,359
50	9,055	10,670	11,176	11,562	11,633	11,268	6,573	5,685	6,313	10,505	6,324	6,518
60	9,710	11,280	11,246	11,732	12,009	11,323	7,380	6,754	6,543	11,280	7,174	6,685
70	11,280	11,280	11,298	11,849	12,462	11,461	8,476	7,487	7,026	11,280	7,966	7,409
80	11,280	11,280	11,393	12,266	12,700	11,499	9,203	8,673	8,448	11,280	9,615	10,062
90	11,280	11,280	11,503	12,700	12,700	11,700	9,950	9,950	11,280	11,280	11,280	11,280
100	11,280	11,280	11,700	12,700	12,700	11,700	11,280	11,280	11,280	11,280	11,280	11,280
Mean	8,965	9,107	10,138	11,205	10,487	9,420	6,697	6,209	6,974	8,952	6,847	7,147

Table A3-6. Continued

## Final QWEST flow (cfs)

Percentile	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
0	(4,316)	(6,506)	(7,117)	(6,376)	(4,607)	(3,979)	(8)	(529)	(5,589)	(4,016)	(3,943)	(3,113)
10	(1,927)	(6,009)	(6,034)	(5,501)	(2,476)	556	(175)	318	(3,584)	(3,468)	(1,612)	
20	(1,554)	(5,629)	(5,554)	(4,913)	(2,329)	(1,918)	836	(19)	509	(3,542)	(2,472)	(1,196)
30	(1,409)	(4,941)	(4,936)	(4,371)	(1,682)	(1,414)	989	125	572	(3,360)	(1,656)	(841)
40	(1,128)	(4,000)	(4,378)	(3,958)	(930)	(766)	1,233	229	585	(3,017)	(709)	(725)
50	(896)	(3,727)	(4,123)	(3,340)	391	(552)	1,448	376	705	(2,722)	(206)	(578)
60	(533)	(3,244)	(3,376)	(2,180)	2,396	(269)	1,564	676	809	(1,759)	151	(440)
70	(128)	(2,946)	(2,371)	(835)	5,231	1,702	1,792	820	959	(380)	480	(372)
80	147	(2,599)	(225)	5,235	7,505	6,274	4,458	1,727	1,543	465	1,012	(276)
90	918	(1,013)	3,831	13,548	11,956	13,431	7,805	3,642	2,730	2,630	1,482	240
100	10,848	17,092	33,500	30,579	51,361	67,257	36,876	28,435	28,215	15,959	2,031	8,875
Mean	(456)	(3,212)	(1,848)	570	4,011	3,450	3,583	1,897	1,475	(1,357)	(604)	(540)

## Final Delta outflow (cfs)

Percentile	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
0	2,992	3,537	4,532	4,505	7,800	6,897	5,841	4,505	4,000	4,001	3,415	3,008
10	3,347	4,504	5,233	5,788	9,282	8,555	7,579	6,036	6,118	4,993	3,415	3,008
20	4,001	5,044	5,565	6,171	11,400	10,946	10,013	7,579	6,704	6,698	4,384	3,152
30	4,198	5,295	6,315	6,955	13,465	15,072	10,399	7,579	6,896	7,165	5,033	3,397
40	4,675	5,647	6,712	9,472	20,954	18,364	11,259	10,012	7,579	7,237	5,302	3,632
50	5,023	6,383	7,186	16,850	27,430	22,627	14,490	11,235	7,579	7,833	5,741	3,818
60	5,354	7,460	8,499	21,455	41,156	27,716	17,354	12,376	8,327	8,002	5,741	4,142
70	6,150	9,608	17,164	29,456	53,600	38,131	20,075	16,226	9,271	8,002	5,741	4,358
80	9,539	12,002	39,257	72,396	67,389	55,634	38,030	25,407	11,632	8,002	6,042	5,517
90	14,567	22,512	68,904	97,186	115,855	92,507	62,706	38,516	16,995	9,373	6,729	8,286
100	33,203	77,020	152,708	197,170	219,888	256,037	139,945	78,406	70,952	28,552	8,616	23,139
Mean	7,578	11,288	22,257	34,981	47,215	38,703	25,635	17,441	11,175	7,758	5,373	4,951

## Threemile Slough flow (cfs)

Percentile	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
0	634	1,104	2,237	1,892	1,881	1,671	7	758	(283)	(1,968)	(246)	580
10	868	1,952	2,947	3,647	2,925	2,282	1,284	1,312	644	445	484	614
20	1,109	2,689	3,424	3,883	3,487	3,036	1,604	1,702	1,156	1,133	645	922
30	1,428	2,908	4,192	4,612	4,520	4,185	1,850	1,781	1,214	1,871	955	1,039
40	1,730	3,381	4,524	5,004	5,704	4,916	2,162	1,989	1,332	2,445	1,144	1,151
50	1,915	4,585	4,822	5,490	6,564	5,872	2,556	2,296	1,408	3,237	1,350	1,268
60	2,096	4,911	5,348	6,234	8,176	6,766	3,176	2,660	1,443	3,717	1,621	1,382
70	2,408	5,245	5,798	7,324	10,074	8,109	3,726	3,014	1,638	3,731	2,130	1,558
80	2,815	5,707	8,238	10,846	13,501	9,535	6,095	4,528	2,038	3,819	2,936	2,094
90	3,185	6,689	12,260	16,064	15,910	14,215	10,015	6,405	3,069	3,915	3,477	2,796
100	9,173	12,956	18,191	31,946	31,138	22,824	14,939	9,223	7,191	3,988	3,788	3,549
Mean	2,043	4,402	6,202	7,808	8,790	7,135	4,043	3,080	1,887	2,648	1,651	1,492

## Old River diversion flow (cfs)

Percentile	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
0	73	1,126	1,053	959	959	1,166	100	100	1,343	1,018	959	959
10	75	1,336	1,228	1,178	1,401	1,345	100	100	1,581	1,252	1,008	1,051
20	75	1,519	1,392	1,475	1,881	1,548	122	122	1,596	1,422	1,030	1,077
30	78	1,643	1,501	1,562	1,935	1,881	182	182	1,603	1,507	1,055	1,122
40	85	1,732	1,661	1,765	2,219	1,881	199	194	1,633	1,510	1,140	1,157
50	91	1,885	1,800	1,986	2,531	1,885	199	197	1,881	1,517	1,378	1,196
60	99	1,947	1,887	2,225	2,706	2,530	267	261	2,193	1,537	1,507	1,285
70	100	2,033	2,015	2,387	3,355	2,530	267	264	2,530	1,609	1,644	1,444
80	138	2,117	2,320	2,959	3,923	2,896	310	305	2,534	1,697	1,688	1,621
90	198	2,260	2,667	3,719	5,230	5,240	310	305	4,348	1,761	1,794	2,190
100	10,012	7,039	11,400	13,638	20,705	25,321	17,802	16,135	17,698	10,617	4,030	6,404
Mean	352	1,968	2,134	2,561	3,323	3,259	1,011	876	2,597	1,774	1,398	1,484

## Antioch flow (cfs)

Percentile	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
0	17	(1,365)	(1,531)	(1,399)	408	1,317	1,638	1,131	1,210	(28)	(305)	(20)
10	488	(976)	(1,145)	(851)	1,185	1,541	2,276	1,514	1,797	129	11	532
20	550	(741)	(946)	(635)	1,838	2,326	2,706	1,784	1,835	296	322	618
30	577	(398)	(579)	(358)	3,173	2,814	2,959	1,902	2,033	392	629	632
40	643	(192)	(409)	247	3,684	3,450	3,168	2,405	2,158	641	795	648
50	724	(55)	(159)	2,135	6,505	4,415	4,111	2,992	2,231	907	1,054	657
60	807	115	130	3,874	12,327	6,176	4,524	3,563	2,361	971	1,333	676
70	1,047	431	2,031	6,719	13,548	8,591	5,490	4,305	2,764	1,241	1,483	736
80	2,045	758	9,000	19,128	20,299	15,762	12,118	6,131	3,374	1,893	1,745	849
90	3,972	3,622	17,428	27,941	32,348	26,653	17,768	10,672	6,250	3,162	1,887	1,108
100	12,689	25,709	50,745	57,405	67,702	90,080	49,350	31,220	29,424	13,991	2,698	9,455
Mean	1,587	1,191	4,354	8,378	12,801	10,585	7,627	4,977	3,362	1,291	1,046	952

Table A3-7a. DeltaSOS-Simulated DW Operations  
for Alternative I: DW Diversions to Storage (cfs)

Water Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total (TAF)
1922	0	0	1,744	2,047	135	49	0	172	118	0	86	67	0
1923	3,871	25	13	15	55	0	0	0	0	0	0	0	257
1924	0	0	0	0	0	869	3,354	0	0	0	0	0	246
1925	0	0	0	0	0	4,000	0	0	0	0	0	0	3
1926	0	0	0	0	0	4,000	432	31	49	76	0	0	260
1927	0	0	0	0	0	0	0	0	0	0	0	0	277
1928	0	0	0	0	0	0	0	0	0	0	0	0	252
1929	0	0	0	0	0	0	0	0	0	0	0	0	0
1930	0	0	0	0	0	0	0	0	0	0	0	0	238
1931	0	0	0	0	0	0	0	0	0	0	0	0	0
1932	0	0	0	0	0	0	0	0	0	0	0	0	0
1933	0	0	0	0	0	0	0	0	0	0	0	0	0
1934	0	0	0	0	0	0	0	0	0	0	0	0	0
1935	0	0	0	0	0	0	0	0	0	0	0	0	0
1936	0	0	0	0	0	0	0	0	0	0	0	0	0
1937	0	0	0	0	0	0	0	0	0	0	0	0	0
1938	0	0	0	0	0	0	0	0	0	0	0	0	0
1939	1,263	25	13	15	0	3,871	30	49	49	0	0	0	0
1940	0	0	0	0	0	0	0	0	0	0	0	0	0
1941	0	0	0	0	0	0	0	0	0	0	0	0	0
1942	3,871	25	13	15	0	0	0	0	0	0	0	0	0
1943	3,871	25	13	15	0	742	0	0	0	0	0	0	0
1944	0	0	0	0	0	2,465	49	0	0	0	0	0	0
1945	0	0	0	0	0	0	0	0	0	0	0	0	0
1946	0	0	0	0	0	0	0	0	0	0	0	0	0
1947	0	0	0	0	0	0	0	0	0	0	0	0	0
1948	0	0	0	0	0	0	0	0	0	0	0	0	0
1949	0	0	0	0	0	0	0	0	0	0	0	0	0
1950	0	0	0	0	0	0	0	0	0	0	0	0	0
1951	0	0	0	0	0	0	0	0	0	0	0	0	0
1952	0	0	0	0	0	0	0	0	0	0	0	0	0
1953	53	25	13	15	0	1,065	31	49	76	0	0	0	0
1954	3,262	654	0	0	0	0	0	0	0	0	0	0	0
1955	0	0	0	0	0	0	0	0	0	0	0	0	0
1956	0	0	0	0	0	0	0	0	0	0	0	0	0
1957	0	0	0	0	0	0	0	0	0	0	0	0	0
1958	3,726	0	0	0	0	0	0	0	0	0	0	0	0
1959	2,610	1,328	0	0	0	0	0	0	0	0	0	0	0
1960	0	0	0	0	0	0	0	0	0	0	0	0	0
1961	0	0	0	0	0	0	0	0	0	0	0	0	0
1962	0	0	0	0	0	0	0	0	0	0	0	0	0
1963	3,871	25	13	15	0	0	0	0	0	0	0	0	0
1964	1,710	2,258	0	0	0	0	0	0	0	0	0	0	0
1965	0	0	0	0	0	0	0	0	0	0	0	0	0
1966	631	3,373	0	0	0	0	0	0	0	0	0	0	0
1967	0	0	0	0	0	0	0	0	0	0	0	0	0
1968	170	25	13	15	0	0	0	0	0	0	0	0	0
1969	0	0	0	0	0	0	0	0	0	0	0	0	0
1970	0	0	0	0	0	0	0	0	0	0	0	0	0
1971	0	0	0	0	0	0	0	0	0	0	0	0	0
1972	2,451	0	0	0	0	0	0	0	0	0	0	0	0
1973	0	4,000	13	222	31	49	76	99	0	0	0	0	0
1974	0	4,000	13	15	0	1,479	0	0	0	0	0	0	0
1975	1,020	25	13	15	0	3,871	15	31	0	0	0	0	0
1976	3,213	25	0	0	0	0	0	0	0	0	0	0	0
1977	0	0	0	0	0	0	0	0	0	0	0	0	0
1978	0	0	0	0	0	0	0	0	0	0	0	0	0
1979	3,019	193	0	0	0	0	0	0	0	0	0	0	0
1980	0	2,939	1,040	30	30	49	0	0	0	0	0	0	0
1981	0	2,867	0	0	0	0	0	0	0	0	0	0	0
1982	0	4,000	13	367	31	49	76	99	0	0	0	0	0
1983	53	25	13	15	0	3,871	31	49	76	0	0	0	0
1984	0	0	0	0	0	0	0	0	0	0	0	0	0
1985	3,019	25	13	15	0	3,871	31	49	76	0	0	0	0
1986	0	906	1,198	30	30	49	0	0	0	0	0	0	0
1987	0	0	0	0	0	0	0	0	0	0	0	0	0
1988	0	0	0	0	0	0	0	0	0	0	0	0	0
1989	0	0	0	0	0	0	0	0	0	0	0	0	0
1990	0	0	0	0	0	0	0	0	0	0	0	0	0
1991	0	0	0	0	0	0	0	0	0	0	0	0	0
Average	641	698	502	691	438	216	24	29	12	43	10	379	222

Table A3-7b. DeltaSOS—Simulated DW Operations for Alternative 1: DW Discharge to Export Wheeling (cfs)

Water Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total (TAF)
1922	0	0	0	0	0	0	0	0	0	3,741	0	0	225
1923	0	0	0	0	0	0	0	0	0	0	0	0	241
1924	0	0	0	0	0	0	0	0	0	0	0	0	0
1925	0	0	0	0	0	0	0	0	0	2,815	72	183	2,914
1926	0	0	0	0	0	0	0	0	0	2,704	0	0	2,704
1927	0	0	417	0	0	0	0	0	0	0	0	0	0
1928	0	0	0	0	0	0	0	0	0	0	0	0	0
1929	0	0	0	0	0	0	0	0	0	0	0	0	0
1930	0	0	0	0	0	0	0	0	0	0	0	0	0
1931	0	0	0	0	0	0	0	0	0	0	0	0	0
1932	0	0	0	0	0	0	0	0	0	0	0	0	0
1933	0	0	0	0	0	0	0	0	0	0	0	0	0
1934	0	0	0	0	0	0	0	0	0	0	0	0	0
1935	0	0	0	0	0	0	0	0	0	0	0	0	0
1936	0	0	0	0	0	0	0	0	0	0	0	0	0
1937	0	0	0	0	0	0	0	0	0	0	0	0	0
1938	0	0	0	0	0	0	0	0	0	0	0	0	0
1939	0	0	0	0	0	0	0	0	0	0	0	0	0
1940	0	0	0	0	0	0	0	0	0	0	0	0	0
1941	0	0	0	0	0	0	0	0	0	0	0	0	0
1942	0	0	0	0	0	0	0	0	0	0	0	0	0
1943	0	0	0	0	0	0	0	0	0	0	0	0	0
1944	0	0	0	0	0	0	0	0	0	0	0	0	0
1945	0	0	0	0	0	0	0	0	0	0	0	0	0
1946	0	0	0	0	0	0	0	0	0	0	0	0	0
1947	0	0	0	0	0	0	0	0	0	0	0	0	0
1948	0	0	0	0	0	0	0	0	0	0	0	0	0
1949	0	0	0	0	0	0	0	0	0	0	0	0	0
1950	0	0	0	0	0	0	0	0	0	0	0	0	0
1951	0	0	0	0	0	0	0	0	0	0	0	0	0
1952	0	0	97	0	0	0	0	0	0	0	0	0	0
1953	0	0	0	0	0	0	0	0	0	0	0	0	0
1954	0	0	1,037	0	0	0	0	0	0	0	0	0	0
1955	0	0	87	0	0	0	0	0	0	0	0	0	0
1956	0	0	515	0	0	0	0	0	0	0	0	0	0
1957	0	0	3,335	0	0	0	0	0	0	0	0	0	0
1958	0	0	0	0	0	0	0	0	0	0	0	0	0
1959	0	0	3,265	0	0	0	0	0	0	0	0	0	0
1960	0	0	0	0	0	0	0	0	0	0	0	0	0
1961	0	0	0	0	0	0	0	0	0	0	0	0	0
1962	0	0	0	0	0	0	0	0	0	0	0	0	0
1963	0	0	0	0	0	0	0	0	0	0	0	0	0
1964	0	0	0	0	0	0	0	0	0	0	0	0	0
1965	0	0	0	0	0	0	0	0	0	0	0	0	0
1966	0	0	0	0	0	0	0	0	0	0	0	0	0
1967	0	0	0	0	0	0	0	0	0	0	0	0	0
1968	0	0	0	0	0	0	0	0	0	0	0	0	0
1969	0	0	0	0	0	0	0	0	0	0	0	0	0
1970	0	0	0	0	0	0	0	0	0	0	0	0	0
1971	0	0	0	0	0	0	0	0	0	0	0	0	0
1972	0	0	176	0	0	0	0	0	0	0	0	0	0
1973	0	0	0	0	0	0	0	0	0	0	0	0	0
1974	0	0	0	0	0	0	0	0	0	0	0	0	0
1975	0	0	0	0	0	0	0	0	0	0	0	0	0
1976	0	0	0	0	0	0	0	0	0	0	0	0	0
1977	0	0	0	0	0	0	0	0	0	0	0	0	0
1978	0	0	0	0	0	0	0	0	0	0	0	0	0
1979	0	0	0	0	0	0	0	0	0	0	0	0	0
1980	0	0	0	0	0	0	0	0	0	0	0	0	0
1981	0	0	162	0	0	0	0	0	0	0	0	0	0
1982	0	0	0	0	0	0	0	0	0	0	0	0	0
1983	0	0	0	0	0	0	0	0	0	0	0	0	0
1984	0	0	0	0	0	0	0	0	0	0	0	0	0
1985	0	0	0	0	0	0	0	0	0	0	0	0	0
1986	0	0	0	0	0	0	0	0	0	0	0	0	0
1987	0	0	0	0	0	0	0	0	0	0	0	0	0
1988	0	0	0	0	0	0	0	0	0	0	0	0	0
1989	0	0	0	0	0	0	0	0	0	0	0	0	0
1990	0	0	0	0	0	0	0	0	0	0	0	0	0
1991	0	0	0	0	0	0	0	0	0	0	0	0	0
Average	0	12	215	39	174	78	204	259	130	910	796	304	188

Table A3-7c. DeltaSOS-Simulated DW Operations  
for Alternative 1: DW End-of-Month Storage (TAF)

Water Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1922	0	0	107	232	238	234	238	238	238	0	5	4
1923	238	238	238	238	14	11	7	1	0	0	0	0
1924	0	0	0	3	2	0	0	0	0	0	0	0
1925	0	0	0	0	0	222	219	215	209	192	190	190
1926	0	0	0	53	238	235	231	196	189	186	(0)	(0)
1927	0	238	212	238	238	238	238	232	193	176	173	0
1928	0	238	238	236	236	238	234	191	176	0	0	0
1929	0	0	0	0	0	0	0	0	0	0	0	0
1930	0	0	0	288	236	221	151	121	114	33	0	0
1931	0	0	0	0	0	0	0	0	0	0	0	0
1932	0	0	53	150	148	0	0	0	0	0	0	0
1933	0	0	0	0	0	123	113	69	37	27	0	0
1934	0	0	0	0	0	122	236	233	162	155	153	0
1935	0	0	0	238	238	235	232	188	152	145	142	0
1936	0	0	0	238	238	238	238	189	147	144	142	0
1937	0	0	0	0	0	222	238	234	227	52	0	0
1938	0	238	238	238	237	235	238	238	238	238	238	0
1939	238	238	0	238	238	238	238	238	231	231	231	0
1940	0	0	0	43	40	(0)	0	0	0	0	0	0
1941	0	0	104	103	238	238	238	238	238	231	231	0
1942	238	238	238	238	14	11	0	0	0	0	0	0
1943	238	238	0	0	0	0	0	0	0	0	0	0
1944	0	0	104	103	238	238	238	238	238	231	231	0
1945	0	0	215	238	14	7	0	0	0	0	0	0
1946	0	0	0	0	0	0	0	0	0	0	0	0
1947	0	0	0	0	0	0	0	0	0	0	0	0
1948	0	0	0	0	0	0	0	0	0	0	0	0
1949	0	0	0	0	0	0	0	0	0	0	0	0
1950	0	0	0	205	238	235	231	187	180	177	174	0
1951	0	0	238	238	238	234	234	227	185	183	183	0
1952	0	71	232	238	238	238	238	238	238	61	0	0
1953	238	238	238	238	215	212	207	201	194	180	180	0
1954	201	238	173	238	238	238	238	198	182	176	172	0
1955	0	6	233	238	233	230	225	219	212	209	206	0
1956	0	0	238	238	238	234	238	238	231	231	238	0
1957	238	206	0	174	238	238	238	238	238	238	238	0
1958	160	238	238	238	238	238	238	238	238	238	238	0
1959	238	36	70	(0)	145	142	70	39	32	29	29	0
1960	0	0	2	0	205	202	129	98	91	88	88	0
1961	0	0	0	0	222	219	135	93	86	83	83	0
1962	0	0	0	0	222	219	135	93	86	83	83	0
1963	238	238	225	238	238	238	238	231	153	153	155	0
1964	105	238	148	238	238	231	177	142	135	132	129	0
1965	0	238	148	238	238	231	177	142	126	123	123	0
1966	39	238	238	238	238	236	233	229	133	126	123	0
1967	0	238	238	238	238	238	238	238	238	238	238	0
1968	238	238	238	238	238	238	238	238	238	238	238	0
1969	0	238	238	238	238	238	238	238	238	238	238	0
1970	238	238	238	238	238	238	224	215	208	205	205	0
1971	0	238	238	44	238	229	238	238	231	228	228	0
1972	151	139	225	238	236	238	196	161	154	151	148	0
1973	0	238	222	238	238	238	234	227	185	172	172	0
1974	0	238	238	238	238	238	238	238	232	225	224	0
1975	238	238	167	0	0	0	0	0	0	0	0	0
1976	238	0	0	0	0	0	0	0	0	0	0	0
1977	0	0	0	0	0	0	0	0	0	0	0	0
1978	0	0	0	0	0	0	0	0	0	0	0	0
1979	186	196	0	238	238	238	234	227	185	34	0	0
1980	0	175	237	238	238	234	227	190	101	0	0	0
1981	176	165	238	238	236	238	193	110	103	101	0	0
1982	0	216	238	238	238	238	238	238	233	64	0	0
1983	238	238	238	238	238	238	238	238	238	238	238	0
1984	238	238	238	238	238	238	234	227	227	179	179	0
1985	186	238	238	237	235	232	182	148	141	138	138	0
1986	0	0	24	0	0	0	0	0	0	0	0	0
1987	0	0	0	236	235	232	192	12	12	5	0	0
1988	0	0	0	2	0	0	0	0	0	0	0	0
1989	0	0	0	0	61	59	12	12	12	161	158	0
1990	0	0	0	0	0	0	0	0	0	0	0	0
1991	0	0	0	0	0	0	0	0	0	0	0	0
Average	65	105	122	162	175	181	167	148	135	75	23	26

Table A3-8. DeltaSOS Mean Annual Simulation Output  
for Alternative 1

Water Year	Sac Basin Type	SJR Basin Year Type	Added Sac Flow (TAF)	New Sac Flow (TAF)	Required SJR Flow (TAF)	Added SJR Flow (TAF)	New SJR Flow (TAF)	Steam & Sutter Flow (TAF)	DCC Rio Vista Reduction (TAF)	Revised DCC Flow (TAF)	Revised Georgiana & DCC (TAF)	Revised Rio Vista Flow (TAF)	QWEST w/ Initial Export (TAF)	
1922	2	1	0	15,237	1,682	0	3,037	4,804	0	949	3,631	11,586	824	
1923	3	2	0	14,489	1,663	73	2,564	4,395	0	1,567	4,039	10,425	465	
1924	5	5	0	8,586	820	4	1,264	2,261	32	1,115	2,902	5,437	(1,130)	
1925	4	3	0	12,064	1,213	29	1,491	3,509	0	1,438	3,630	9,040	(667)	
1926	4	4	0	11,614	1,107	0	1,511	3,338	0	1,419	3,554	8,157	(1,037)	
1927	1	2	0	19,015	1,663	71	1,963	6,229	0	1,355	4,501	17,527	212	
1928	2	3	0	18,455	1,295	30	1,736	6,051	0	1,477	4,542	14,653	(275)	
1929	5	5	0	8,696	820	2	1,306	2,314	42	1,147	2,939	5,573	(886)	
1930	4	5	0	10,768	816	28	1,168	3,052	0	1,269	3,310	7,368	(1,021)	
1931	5	5	0	6,775	790	2	1,257	1,651	91	875	2,453	4,103	(287)	
1932	4	2	0	8,618	1,244	0	1,655	2,274	0	1,142	2,924	5,630	308	
1933	5	4	0	7,535	1,004	0	1,388	1,931	97	908	2,579	4,753	(326)	
1934	5	5	0	8,173	820	4	1,205	2,172	66	916	2,658	5,386	(423)	
1935	3	2	0	12,496	1,477	0	2,051	3,700	29	1,301	3,554	9,935	(372)	
1936	3	2	0	13,335	1,585	80	2,221	3,996	0	1,365	3,727	10,821	136	
1937	3	1	0	12,426	1,682	56	2,860	3,671	0	1,290	3,547	8,936	804	
1938	1	1	0	28,179	1,759	0	5,428	9,982	0	1,057	5,533	31,093	5,905	
1939	4	4	0	10,712	1,004	0	1,695	3,007	0	1,498	3,498	6,983	(510)	
1940	2	2	0	17,638	1,585	78	1,973	5,687	0	1,469	4,408	17,640	100	
1941	1	1	0	23,780	1,759	0	3,677	8,157	0	1,370	5,188	27,629	2,950	
1942	1	1	0	25,353	1,759	0	2,986	8,822	0	1,151	5,211	25,051	2,793	
1943	1	1	0	20,972	1,759	78	3,229	6,984	0	1,426	4,820	17,571	3,269	
1944	4	3	0	11,388	1,140	45	1,688	3,253	0	1,423	3,528	7,790	(1,164)	
1945	3	2	0	12,566	1,507	77	2,321	3,714	0	1,386	3,653	9,005	(244)	
1946	3	2	0	16,177	1,585	74	2,146	5,102	0	1,435	4,178	13,192	(65)	
1947	4	4	0	10,949	1,056	50	1,607	3,089	0	1,438	3,480	7,285	(1,585)	
1948	3	3	0	13,098	1,140	3	1,421	3,868	0	1,630	3,917	8,948	(1,430)	
1949	4	3	0	11,993	1,140	49	1,472	3,503	0	1,421	3,616	8,292	(1,039)	
1950	3	3	0	12,811	1,192	0	1,532	3,774	0	1,525	3,793	8,851	(1,161)	
1951	2	2	0	21,672	1,663	80	2,663	7,244	0	1,526	5,004	18,363	1,957	
1952	1	1	0	28,323	1,759	0	3,023	9,970	0	1,183	5,647	24,889	2,963	
1953	1	3	0	18,839	1,295	0	1,965	6,162	0	1,240	4,362	16,711	767	
1954	2	3	0	19,873	1,295	29	1,601	6,490	0	1,575	4,778	15,551	(526)	
1955	4	4	0	11,447	1,056	9	1,374	3,263	0	1,488	3,587	7,775	(1,416)	
1956	1	1	0	21,768	1,759	0	3,270	7,335	0	1,499	5,011	24,852	2,374	
1957	2	3	0	15,092	1,244	27	1,812	4,642	0	1,623	4,175	11,044	(740)	
1958	1	1	0	26,266	1,759	1	3,397	9,182	0	1,243	5,417	29,612	3,022	
1959	3	4	0	14,716	1,159	69	1,800	4,523	0	1,536	4,064	10,754	112	
1960	4	5	0	11,339	846	30	1,247	3,228	0	1,455	3,546	7,825	(1,648)	
1961	4	5	0	11,459	842	40	1,179	3,280	0	1,434	3,545	7,844	(1,714)	
1962	3	3	0	12,372	1,110	45	1,530	3,632	0	1,418	3,656	9,182	(951)	
1963	1	2	0	20,611	1,585	0	1,934	6,877	0	1,184	4,566	18,800	(18)	
1964	4	4	0	12,397	1,056	36	1,394	3,615	0	1,540	3,756	8,495	(1,369)	
1965	1	1	0	19,519	1,759	80	2,404	6,453	0	1,378	4,592	19,247	758	
1966	3	3	0	13,901	1,244	49	2,011	4,172	0	1,502	3,913	10,033	(959)	
1967	1	1	0	22,181	1,759	0	3,304	7,439	0	1,144	4,729	19,913	1,947	
1968	3	4	0	15,971	1,211	49	1,709	5,020	0	1,525	4,226	12,181	706	
1969	1	1	0	23,660	1,759	0	5,442	8,066	0	1,543	5,297	23,945	5,690	
1970	1	2	0	21,543	1,585	74	3,357	7,316	0	1,506	5,006	24,373	3,752	
1971	1	3	0	20,939	1,295	0	1,732	6,908	0	1,583	4,932	16,920	(185)	
1972	3	4	0	13,210	1,107	0	1,515	3,920	0	1,524	3,842	9,253	(1,549)	
1973	2	2	0	19,810	1,663	78	2,252	6,529	0	1,487	4,717	18,433	995	
1974	1	1	0	29,264	1,759	2	2,240	10,392	0	1,580	6,144	30,030	2,138	
1975	1	1	0	20,440	1,682	0	2,310	6,784	0	1,674	4,962	16,153	919	
1976	5	5	0	10,456	820	9	1,169	2,943	4	1,324	3,307	6,917	(1,263)	
1977	5	5	0	6,824	790	0	1,016	1,703	36	821	2,391	4,233	(428)	
1978	2	1	0	16,859	1,729	0	2,267	5,405	31	1,187	4,063	15,113	2,171	
1979	3	2	0	13,993	1,585	78	2,378	4,235	0	1,449	3,884	10,011	355	
1980	2	1	0	18,292	1,759	0	4,818	6,032	0	1,267	4,358	19,356	4,240	
1981	4	4	0	13,093	1,159	49	1,962	3,885	0	1,436	3,756	9,162	(436)	
1982	1	1	0	29,591	1,759	3	5,389	10,473	0	1,562	6,157	30,065	6,953	
1983	1	1	0	35,577	1,759	0	15,726	12,980	0	1,050	6,551	42,561	21,590	
1984	1	2	0	23,213	1,585	74	6,524	7,985	0	1,190	4,958	22,157	8,228	
1985	4	4	0	13,038	1,107	50	1,909	3,861	0	1,485	3,790	9,191	(591)	
1986	1	1	0	18,958	1,682	0	4,814	6,463	0	1,300	4,534	23,167	4,991	
1987	4	5	0	10,952	846	16	1,661	3,102	0	1,383	3,437	7,300	(1,270)	
1988	5	5	0	9,416	790	6	1,020	2,563	38	1,161	3,048	6,236	(961)	
1989	4	5	0	11,782	842	31	1,036	3,442	31	1,324	3,490	8,090	(1,309)	
1990	5	5	0	8,675	790	4	944	2,288	52	1,143	2,939	5,561	(812)	
1991	5	5	0	8,612	816	37	995	2,286	29	1,072	2,863	5,552	(564)	
Average				0	15,998	1,331	27	2,428	5,091	8	1,347	4,090	13,793	887

Notes: Definitions of the categories are provided in Table A2-3 in Appendix A2.

Water-year types: 1=wet, 2=above normal, 3=below normal, 4=dry, 5=critically dry  
Negative values shown in parentheses.

Table A3-8. Continued

Water Year	Reduced Export for QWEST (TAF)	Initial Collinsville Outflow (TAF)	Initial Chippewa Outflow (TAF)	Required Delta Montez. Flow (TAF)	Revised Export for Outflow (TAF)	Reduced Export Limits (TAF)	Export for Limits Change (TAF)	Net Export Change (TAF)	Adjusted Total Export (TAF)	Revised QWEST Flow (TAF)	Revised Collinsville Outflow (TAF)
1922	0	12,321	11,391	6,103	930	1	8,364	13	204	6,389	620
1923	0	10,803	9,917	5,833	886	0	9,521	4	294	6,485	171
1924	0	4,180	3,375	4,063	805	3	5,401	2	16	4,558	(1,146)
1925	0	8,292	7,430	5,195	862	3	7,312	8	68	5,803	(736)
1926	0	7,022	6,175	5,096	847	3	6,923	11	13	5,746	(1,050)
1927	0	17,655	16,686	6,980	970	1	10,032	6	376	6,618	(163)
1928	0	14,277	13,355	6,665	922	1	5,435	19	419	6,746	(694)
1929	0	4,573	4,418	813	3	3	4,833	5	5,014	(1,026)	13,858
1930	0	6,245	5,414	832	800	3	6,182	9	3,341	6,240	8,223
1931	0	3,702	2,901	3,657	800	3	4,306	0	14	(301)	17,280
1932	0	5,849	5,019	5,190	831	1	5,625	6	149	4,296	(1,317)
1933	0	4,313	3,503	4,050	810	0	4,694	0	18	3,696	4,295
1934	0	4,853	4,038	4,532	815	3	4,803	2	20	3,757	(438)
1935	0	9,477	8,584	6,455	893	3	7,413	3	67	5,992	9,411
1936	0	10,877	9,993	6,248	883	3	8,419	3	31	6,184	10,846
1937	0	9,666	8,791	5,287	874	3	7,752	44	781	9,643	5,701
1938	0	35,736	31,204	1,204	0	0	18,482	6	996	7,223	35,944
1939	0	6,353	5,520	4,357	833	0	6,865	1	705	5,793	(1,215)
1940	0	17,676	16,697	7,246	979	3	10,409	27	394	6,669	2,557
1941	0	30,529	29,403	7,010	1,125	1	16,412	14	1,291	6,740	1,502
1942	0	27,769	26,688	6,671	1,082	0	16,125	0	1,172	6,730	2,097
1943	0	20,751	19,767	7,309	984	0	13,363	0	1,172	6,730	19,579
1944	0	6,521	5,686	4,952	835	3	6,788	27	332	6,454	(1,231)
1945	0	8,664	7,806	5,277	858	1	7,966	6	62	8,332	(576)
1946	0	13,020	12,120	6,279	900	1	11,239	0	6,316	12,994	30,135
1947	0	5,583	4,756	5,072	827	3	6,751	0	1,590	5,578	2,478
1948	0	7,409	6,543	5,487	866	3	7,141	0	1,492	7,347	19,579
1949	0	7,142	6,299	4,921	843	3	6,947	0	7,113	7,113	(1,196)
1950	0	5,579	6,725	5,599	854	3	7,346	11	364	7,550	17,629
1951	0	20,237	19,264	6,326	972	0	14,970	5	1,593	1,593	(1,196)
1952	0	27,785	26,665	7,985	1,120	1	15,787	14	614	7,541	(741)
1953	0	17,375	16,419	6,080	956	0	12,676	0	1,508	6,812	(1,189)
1954	0	14,909	13,968	5,921	940	0	10,339	0	6,633	6,363	(1,189)
1955	0	6,255	5,422	5,051	834	0	7,346	11	614	7,347	14,246
1956	0	27,785	26,665	7,985	1,120	1	15,787	5	63	6,079	19,873
1957	0	10,196	9,315	5,661	880	0	17,795	0	304	7,128	(1,223)
1958	0	32,590	31,417	7,267	1,173	1	8,552	0	483	6,769	2,426
1959	0	10,755	9,880	5,294	875	1	8,086	0	596	6,118	9,813
1960	0	6,062	5,230	5,203	832	3	6,803	1	663	5,855	(1,648)
1961	0	6,020	7,020	5,097	831	3	6,750	1	5,777	6,192	(1,715)
1962	0	8,134	7,281	5,063	853	0	7,528	2	2,070	26,853	18,220
1963	0	18,707	17,694	7,329	1,013	0	1,162	0	304	7,128	9,712
1964	0	7,008	6,169	5,143	839	0	7,804	1	614	7,541	14,246
1965	0	19,912	18,920	6,670	991	0	14,996	6	63	6,079	(1,189)
1966	0	21,799	20,750	7,558	1,049	0	8,613	0	487	7,138	(1,223)
1967	0	12,778	11,884	5,557	894	0	9,256	0	2,070	5,798	31,995
1968	0	29,568	28,445	7,967	1,123	1	16,813	0	883	7,313	(1,223)
1969	0	28,036	28,967	5,637	1,039	1	16,855	0	1,757	6,789	(1,223)
1970	0	16,639	15,687	7,094	952	0	12,449	6	161	6,974	(1,364)
1971	0	21,799	20,750	7,558	1,049	0	8,613	4	762	7,627	(1,364)
1972	0	7,581	6,735	5,409	846	0	7,849	0	324	6,556	(1,067)
1973	0	19,734	18,410	6,821	966	0	12,919	0	6,932	4,807	28,685
1974	0	32,083	30,958	6,944	1,126	0	19,746	0	615	7,444	(1,523)
1975	0	16,975	16,015	6,627	960	0	10,903	0	1,111	7,604	(1,192)
1976	0	5,528	4,706	4,416	821	0	6,343	0	96	5,095	(1,359)
1977	0	3,682	3,682	4,282	800	0	4,264	0	24	3,076	(346)
1978	0	17,228	16,266	7,933	962	0	10,117	0	1,221	5,728	(1,879)
1979	0	10,275	9,397	5,844	878	1	8,242	0	693	6,498	(338)
1980	0	23,524	22,522	6,568	1,002	0	14,443	0	1,615	7,444	(1,523)
1981	0	7,757	7,757	5,109	7,849	0	7,849	0	711	6,384	31,468
1982	0	36,973	35,733	7,099	1,240	0	20,240	0	591	6,488	(1,337)
1983	0	64,141	62,588	6,197	1,553	0	31,346	0	2,964	8,377	(638)
1984	0	30,285	29,222	5,676	1,083	0	20,548	0	2,502	7,078	(950)
1985	0	8,501	7,647	5,068	854	0	8,383	4	317	6,251	9,582
1986	0	28,103	27,051	6,155	1,052	0	14,443	0	227	6,495	(329)
1987	0	5,913	5,083	4,819	829	0	7,849	0	901	6,384	22,813
1988	0	6,167	4,349	4,505	818	0	6,602	0	47	5,854	(1,317)
1989	0	6,669	5,825	4,816	844	0	5,648	0	10	4,456	5,866
1990	0	4,640	3,825	4,506	814	0	6,313	0	17	5,300	5,157
1991	0	4,062	4,088	816	3	3	4,037	4	12	4,077	4,647
Average	0	14,587	13,656	5,802	931	1	10,292	7	450	6,162	4,862
											14,137

Table A3-8. Continued

Water Year	Available for DW Diversion (TAF)	Delta Storage (TAF)	Delta Storage Diversion (TAF)	Delta Storage Export (TAF)	Delta Storage Cutoff (TAF)	Total Export (TAF)	Final QWEST Flow (TAF)	Final Delta Outflow (TAF)	Final Slough Flow (TAF)	3-Mile Slough Flow (TAF)	Old River Diversion Flow (TAF)	Final Antioch Flow (TAF)	Old & Middle River Flow (TAF)
1922	1,073	238	257	225	0	6,614	363	11,860	2,587	1,587	2,950	(5,526)	5,852
1923	2,239	238	246	241	0	6,726	(75)	10,263	2,454	1,369	2,379	4,391	4,391
1924	3	3	3	0	0	4,558	(1,149)	4,161	1,627	825	825	5,612	5,612
1925	774	222	246	183	0	5,987	(982)	7,977	2,415	852	852	1,433	1,433
1926	432	238	260	203	0	5,950	(1,309)	6,750	2,312	877	877	1,003	1,003
1927	2,854	238	277	239	0	6,857	(441)	17,003	4,224	1,088	3,783	6,297	6,297
1928	2,473	238	252	207	0	6,953	(946)	13,606	3,712	996	996	2,766	6,504
1929	0	0	0	0	0	5,583	(906)	4,553	1,583	861	861	677	4,338
1930	281	238	203	203	0	5,218	(1,264)	6,002	2,114	764	764	850	5,010
1931	0	0	0	0	0	3,341	(301)	3,688	1,051	831	831	750	3,120
1932	148	150	148	142	0	4,439	(11)	5,553	1,309	943	943	1,320	4,009
1933	0	0	0	0	0	3,696	(344)	4,295	1,216	853	853	872	3,461
1934	121	123	121	92	0	3,849	(564)	4,712	1,432	868	868	805	3,644
1935	617	238	248	206	0	6,198	(686)	9,163	2,531	1,100	1,100	1,845	5,596
1936	1,433	238	243	208	0	6,392	(138)	10,603	2,566	1,192	1,192	2,428	5,663
1937	934	238	259	214	0	6,115	522	9,383	1,920	1,494	1,494	2,442	5,066
1938	8,837	238	431	225	0	7,448	(4,478)	35,514	5,845	3,087	10,323	4,735	5,626
1939	552	238	84	202	0	5,995	(1,299)	6,405	2,035	995	995	736	5,626
1940	2,660	238	248	209	0	6,676	(195)	17,381	4,173	1,046	1,046	3,978	6,032
1941	5,968	238	249	219	0	6,887	(2,307)	29,885	5,717	2,057	2,057	5,075	5,075
1942	5,142	238	252	219	0	7,459	(1,251)	26,227	5,448	1,534	1,534	6,371	6,371
1943	4,700	238	246	214	0	6,944	(1,851)	19,334	3,516	1,611	1,611	5,367	5,367
1944	49	50	36	201	0	6,031	(1,281)	6,405	2,217	984	984	936	5,609
1945	4,880	238	253	201	0	6,657	(629)	8,079	2,359	1,254	1,254	1,530	5,947
1946	2,353	238	247	201	0	6,059	(1,599)	12,477	3,184	1,139	1,139	2,843	5,993
1947	9	5	0	201	0	6,364	(1,519)	5,568	2,199	958	958	600	5,693
1948	27	18	27	0	0	5,922	(1,301)	6,380	2,562	806	806	1,043	6,138
1949	449	238	233	201	0	6,388	(1,438)	2,514	2,341	842	842	1,040	5,669
1950	327	238	248	208	0	7,339	(1,729)	1,809	6,302	866	866	1,076	6,111
1951	5,187	238	253	204	0	7,393	(1,941)	19,621	3,860	1,490	1,490	5,201	6,376
1952	6,016	238	506	224	0	7,765	(1,842)	26,665	5,224	1,548	1,548	7,067	6,826
1953	2,567	238	266	206	0	7,018	(7,447)	15,861	4,097	1,084	1,084	3,382	6,489
1954	2,577	238	315	271	0	6,292	(1,729)	5,943	2,354	844	844	6,035	6,035
1955	709	238	249	213	0	6,288	(1,729)	5,503	2,390	802	802	583	5,769
1956	5,267	238	262	212	0	5,971	(1,942)	5,791	2,437	763	763	495	5,773
1957	940	238	444	212	0	7,213	(1,711)	7,886	2,516	1,318	1,318	6,828	6,828
1958	6,698	238	493	225	0	6,543	(1,048)	7,213	3,111	964	964	2,019	8,230
1959	1,811	238	219	219	0	6,951	(1,807)	31,951	2,835	987	987	1,787	6,167
1960	159	145	159	116	0	5,971	(1,942)	5,503	2,390	802	802	583	5,769
1961	227	205	227	173	0	5,971	(1,942)	5,791	2,437	763	763	495	5,773
1962	827	222	246	190	0	5,989	(1,770)	17,955	4,624	1,021	1,021	3,854	6,786
1963	3,055	238	264	224	0	6,673	(1,090)	6,610	2,534	869	869	766	6,015
1964	1,263	238	337	294	0	7,363	(1,770)	19,562	4,359	1,246	1,246	4,767	6,237
1965	3,157	238	253	216	0	6,964	(1,612)	8,312	2,844	1,110	1,110	4,232	6,478
1966	1,218	238	248	199	0	7,006	(1,612)	20,539	4,427	1,729	1,729	5,113	6,515
1967	4,461	238	498	226	0	7,853	(687)	10,982	3,181	943	943	2,091	6,401
1968	2,134	238	238	208	0	6,673	(1,090)	28,188	4,231	3,097	3,097	8,541	4,853
1969	6,436	238	497	225	0	7,558	(4,309)	26,262	5,062	1,682	1,682	7,040	5,866
1970	5,616	238	16	207	0	6,995	(1,978)	16,022	4,196	993	993	3,393	6,939
1971	3,002	238	456	431	0	7,405	(802)	6,978	2,832	902	902	679	6,642
1972	609	238	273	235	0	6,908	(2,152)	15,768	4,169	1,204	1,204	2,293	6,160
1973	4,134	238	263	218	0	7,50	(408)	18,790	4,169	943	943	4,099	5,160
1974	6,244	238	433	206	0	7,649	(1,091)	31,036	6,658	1,154	1,154	7,978	6,160
1975	2,724	238	124	212	0	7,816	(316)	15,740	3,864	1,176	1,176	3,549	7,174
1976	567	195	232	155	0	5,326	(1,554)	5,237	2,098	755	755	546	5,230
1977	0	0	0	0	0	7,006	(1,554)	3,638	1,128	676	676	3,050	6,642
1978	2,713	238	243	213	0	5,941	(770)	9,150	2,575	1,204	1,204	4,099	5,160
1979	1,050	238	432	393	0	6,691	(1,091)	15,765	3,301	1,154	1,154	7,978	6,160
1980	5,331	238	246	210	0	6,594	(1,592)	22,566	3,483	2,557	2,557	6,766	4,459
1981	782	238	256	217	0	5,916	(1,592)	7,456	2,635	1,068	1,068	6,237	6,237
1982	8,660	238	522	356	0	8,016	(1,389)	35,935	5,154	3,355	3,355	11,070	4,988
1983	21,447	238	49	0	8,377	18,578	61,128	4,099	1,158	4,099	22,677	760	
1984	8,815	238	11	201	0	6,891	(770)	27,771	3,374	3,669	3,669	9,088	4,156
1985	1,578	238	242	199	0	6,480	(1,510)	7,942	2,503	1,03	1,03	1,353	5,888
1986	6,120	238	250	213	0	6,707	(4,514)	27,626	3,986	2,756	2,756	8,500	4,314
1987	72	58	0	0	0	5,912	(1,389)	5,794	2,137	919	919	748	5,606
1988	471	234	234	205	0	6,690	(1,205)	4,923	1,831	646	646	4,551	4,551
1989	237	234	204	0	0	5,504	(1,567)	6,411	2,377	810	810	4,081	4,081
1990	236	234	46	0	0	4,123	(884)	4,568	1,573	633	633	4,081	4,081
1991	60	4	0	0	0	3,824	(585)	4,888	1,477	634	634	3,788	3,788
Average	2,575	198	222	188	0	6,350	215	13,915	3,148	1,370	1,370	3,363	(5,499)

Table A3-9. Monthly Percentiles for DeltaSOS Simulations  
for Alternative 1

DW diversion (cfs)												
Percentile	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	13	15	30	49	0	0	0	0	0
60	0	25	13	15	31	49	0	0	0	0	85	0
70	53	25	13	222	31	49	0	0	0	0	86	0
80	1,020	906	384	1,065	31	49	76	99	0	0	86	0
90	3,019	4,000	1,744	3,326	2,465	76	76	99	37	86	67	734
100	3,871	4,000	3,871	3,871	4,000	3,871	192	297	118	130	115	4,000
Mean	641	698	502	691	438	216	24	29	12	43	10	379

DW storage (TAF)												
Percentile	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
0	0	0	0	(0)	0	0	(0)	0	0	(0)	(0)	(0)
10	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	14	56	7	0	0	0	0	0
30	0	0	0	61	174	218	151	110	86	0	0	0
40	0	0	2	236	233	232	196	148	131	5	0	0
50	0	0	148	238	236	235	229	176	155	34	0	0
60	0	196	225	238	238	238	234	209	185	88	0	0
70	39	238	238	238	238	238	234	227	194	138	0	0
80	201	238	238	238	238	238	238	232	225	161	6	0
90	238	238	238	238	238	238	238	233	183	80	164	0
100	238	238	238	238	238	238	238	238	238	238	238	0
Mean	65	105	122	162	175	181	167	148	135	75	23	26

DW discharge for export (cfs)												
Percentile	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	411	0	1,141	987	0
80	0	0	0	0	0	0	0	616	480	136	2,614	1,888
90	0	0	352	0	0	0	0	768	827	586	3,291	2,679
100	0	515	3,335	2,708	4,000	2,691	1,332	1,843	2,822	3,741	3,755	3,379
Mean	0	12	215	39	174	78	204	259	130	910	796	304

DW discharge for outflow (cfs)												
Percentile	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0
80	0	0	0	0	0	0	0	0	0	0	0	0
90	0	0	0	0	0	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0	0	0	0	0	0
Mean	0	0	0	0	0	0	0	0	0	0	0	0

Final CVP Tracy and SWP Banks exports (cfs)												
Percentile	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
0	4,278	3,314	5,051	4,859	6,075	4,123	2,842	2,455	1,145	1,896	597	3,296
10	5,115	5,373	7,351	9,055	6,407	4,723	3,810	3,327	5,500	6,208	3,607	3,617
20	6,844	6,628	8,569	11,036	7,754	6,095	4,662	3,956	5,568	7,611	4,90	5,966
30	7,982	7,360	10,426	11,372	9,746	8,217	4,975	5,464	5,804	10,052	5,143	6,405
40	8,490	8,371	11,114	11,428	11,320	10,191	5,753	5,424	6,202	11,280	6,324	6,626
50	9,045	10,658	11,281	11,562	11,663	11,268	6,573	6,064	6,595	11,280	8,279	6,626
60	9,700	11,280	11,315	11,732	12,097	11,340	7,380	6,581	6,968	11,280	9,116	7,589
70	11,280	11,280	11,399	11,849	12,506	11,461	8,428	7,882	7,148	11,280	10,296	9,087
80	11,280	11,280	11,472	12,266	12,700	11,499	9,203	9,437	8,756	11,280	11,280	10,268
90	11,280	11,280	11,658	12,700	12,700	11,700	9,950	9,950	11,280	11,280	11,280	11,280
100	11,280	11,280	11,700	12,700	12,700	11,700	11,280	11,280	11,280	11,280	11,280	11,280
Mean	8,958	9,113	10,343	11,247	10,664	9,506	6,886	7,125	9,902	7,694	7,472	

Table A3-10a. DeltaSOS—Simulated DW Operations  
for Alternative 2: DW Diversions to Storage (cfs)

Water Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total (TAF)
1922	0	0	1,744	2,047	135	49	0	0	172	118	0	67	0
1923	3,871	25	13	15	0	0	0	0	0	0	0	0	257
1924	0	0	0	55	0	0	0	0	0	0	0	0	246
1925	0	0	0	0	0	0	0	0	0	0	0	0	3
1926	0	0	0	869	161	31	49	0	76	0	86	0	246
1927	0	4,000	13	15	0	0	0	0	0	0	0	0	260
1928	0	4,000	13	15	0	0	0	0	0	0	0	0	261
1929	0	0	0	3,871	0	0	0	0	0	0	0	0	287
1930	0	0	0	0	0	0	0	0	0	0	0	0	0
1931	0	0	0	0	0	0	0	0	0	0	0	0	244
1932	0	0	0	0	0	0	0	0	0	0	0	0	0
1933	0	0	0	0	0	0	0	0	0	0	0	0	121
1934	0	0	0	0	0	0	0	0	0	0	0	0	0
1935	0	0	0	0	0	0	0	0	0	0	0	0	0
1936	0	0	0	0	0	0	0	0	0	0	0	0	0
1937	0	0	0	0	0	0	0	0	0	0	0	0	0
1938	0	4,000	13	15	0	0	0	0	0	0	0	0	0
1939	1,263	25	13	3,871	0	0	0	0	0	0	0	0	0
1940	0	0	0	0	0	0	0	0	0	0	0	0	0
1941	0	0	0	0	0	0	0	0	0	0	0	0	0
1942	0	3,871	25	13	15	31	49	0	76	99	0	0	0
1943	0	0	0	0	0	0	0	0	0	0	0	0	0
1944	0	0	0	0	0	0	0	0	0	0	0	0	0
1945	0	0	0	1,886	0	0	0	0	0	0	0	0	0
1946	0	3,606	394	15	0	0	0	0	0	0	0	0	0
1947	0	0	0	0	0	0	0	0	0	0	0	0	0
1948	0	0	0	0	0	0	0	0	0	0	0	0	0
1949	0	0	0	0	0	0	0	0	0	0	0	0	0
1950	0	0	0	3,326	634	0	0	0	0	0	0	0	0
1951	0	4,000	13	15	31	49	0	0	0	0	0	0	0
1952	0	1,196	2,726	48	30	49	76	99	0	118	0	0	0
1953	53	25	13	645	31	49	76	0	0	0	0	0	0
1954	3,262	654	0	0	0	0	0	0	0	0	0	0	0
1955	0	103	3,784	100	0	0	0	0	0	0	0	0	0
1956	0	0	3,781	15	30	49	0	0	0	0	0	0	0
1957	3,726	0	0	0	0	0	0	0	0	0	0	0	0
1958	2,610	1,328	0	0	0	0	0	0	0	0	0	0	0
1959	0	0	0	0	0	0	0	0	0	0	0	0	0
1960	0	0	0	0	0	0	0	0	0	0	0	0	0
1961	0	0	0	0	0	0	0	0	0	0	0	0	0
1962	0	0	0	0	0	0	0	0	0	0	0	0	0
1963	3,871	195	25	13	15	31	49	76	99	118	0	0	0
1964	1,710	2,258	0	0	0	0	0	0	0	0	0	0	0
1965	0	0	3,871	15	31	49	0	0	0	0	0	0	0
1966	631	3,373	13	15	0	0	0	0	0	0	0	0	0
1967	0	0	3,871	15	31	49	76	99	0	118	0	0	0
1968	170	25	13	15	30	49	0	0	0	0	0	0	0
1969	0	0	0	0	0	0	0	0	0	0	0	0	0
1970	53	25	13	3,871	15	31	49	76	99	118	0	0	0
1971	0	0	0	0	0	0	0	0	0	0	0	0	0
1972	2,451	0	4,000	1,627	90	0	0	0	0	0	0	0	0
1973	0	4,000	13	103	31	49	0	0	0	0	0	0	0
1974	0	4,000	25	13	15	31	49	76	99	118	0	0	0
1975	1,020	0	0	0	0	0	0	0	0	0	0	0	0
1976	3,213	25	0	0	0	0	0	0	0	0	0	0	0
1977	0	0	0	0	0	0	0	0	0	0	0	0	0
1978	0	0	0	0	0	0	0	0	0	0	0	0	0
1979	3,019	193	0	0	0	0	0	0	0	0	0	0	0
1980	0	2,939	1,040	20	30	49	0	0	0	0	0	0	0
1981	0	0	1,198	0	0	0	0	0	0	0	0	0	0
1982	0	4,000	13	138	31	49	0	0	0	0	0	0	0
1983	58	25	13	15	31	49	76	99	118	0	0	0	0
1984	53	25	13	15	31	49	0	0	0	0	0	0	0
1985	3,019	906	13	0	0	0	0	0	0	0	0	0	0
1986	0	0	384	0	0	0	0	0	0	0	0	0	0
1987	0	0	2,491	1,149	49	76	0	0	0	0	0	0	0
1988	0	0	0	3,845	1,106	0	0	0	0	0	0	0	0
1989	0	0	0	0	3,769	0	0	0	0	0	0	0	0
1990	0	0	0	0	990	0	0	0	0	0	0	0	0
1991	0	0	0	0	64	0	0	0	0	0	0	0	0
Average	641	698	502	658	438	236	92	31	12	43	10	379	225

Table A3-10b. DeltaSOS—Simulated DW Operations  
for Alternative 2: DW Discharge to Export Wheeling (cfs)

Water Year	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	Sep.	Total (TAF)
1922	0	0	0	0	0	4,000	0	181	0	0	0	0	3,741
1923	0	0	0	0	0	30	0	3,319	0	0	0	0	225
1924	0	0	0	0	0	0	0	3,822	0	0	0	0	252
1925	0	0	0	0	0	0	0	0	0	0	0	0	200
1926	0	0	0	0	0	0	0	0	0	0	0	0	230
1927	146	0	0	0	0	0	0	0	0	0	0	0	237
1928	0	0	0	0	0	0	0	0	0	0	0	0	260
1929	0	0	0	0	0	0	0	0	0	0	0	0	259
1930	0	0	0	0	0	0	0	0	0	0	0	0	0
1931	1931	0	0	0	0	0	0	0	0	0	0	0	151
1932	0	0	0	0	0	0	0	0	0	0	0	0	0
1933	0	0	0	0	0	0	0	0	0	0	0	0	0
1934	0	0	0	0	0	0	0	0	0	0	0	0	0
1935	0	0	0	0	0	0	0	0	0	0	0	0	0
1936	0	0	0	0	0	0	0	0	0	0	0	0	0
1937	0	0	0	0	0	0	0	0	0	0	0	0	0
1938	0	0	0	0	0	0	0	0	0	0	0	0	0
1939	0	0	0	0	0	0	0	0	0	0	0	0	0
1940	0	0	0	0	0	0	0	0	0	0	0	0	0
1941	0	0	0	0	0	0	0	0	0	0	0	0	0
1942	0	0	0	0	0	0	0	0	0	0	0	0	0
1943	0	0	0	0	0	0	0	0	0	0	0	0	0
1944	0	0	0	0	0	0	0	0	0	0	0	0	0
1945	0	0	0	0	0	0	0	0	0	0	0	0	0
1946	0	0	0	0	0	0	0	0	0	0	0	0	0
1947	0	0	0	0	0	0	0	0	0	0	0	0	0
1948	0	0	0	0	0	0	0	0	0	0	0	0	0
1949	0	0	0	0	0	0	0	0	0	0	0	0	0
1950	0	0	0	0	0	0	0	0	0	0	0	0	0
1951	0	0	0	0	0	0	0	0	0	0	0	0	0
1952	34	0	0	0	0	0	0	0	0	0	0	0	0
1953	0	0	0	0	0	0	0	0	0	0	0	0	0
1954	617	0	0	0	0	0	0	0	0	0	0	0	0
1955	86	0	0	0	0	0	0	0	0	0	0	0	0
1956	0	0	0	0	0	0	0	0	0	0	0	0	0
1957	515	0	3,335	0	0	0	0	0	0	0	0	0	0
1958	0	0	0	0	0	0	0	0	0	0	0	0	0
1959	2,824	0	0	0	0	0	0	0	0	0	0	0	0
1960	26	0	0	0	0	0	0	0	0	0	0	0	0
1961	0	0	0	0	0	0	0	0	0	0	0	0	0
1962	0	0	0	0	0	0	0	0	0	0	0	0	0
1963	73	0	0	0	0	0	0	0	0	0	0	0	0
1964	1,031	0	0	0	0	0	0	0	0	0	0	0	0
1965	0	0	0	0	0	0	0	0	0	0	0	0	0
1966	0	0	0	0	0	0	0	0	0	0	0	0	0
1967	0	0	0	0	0	0	0	0	0	0	0	0	0
1968	0	0	0	0	0	0	0	0	0	0	0	0	0
1969	0	0	0	0	0	0	0	0	0	0	0	0	0
1970	0	0	0	0	0	0	0	0	0	0	0	0	0
1971	0	0	0	0	0	0	0	0	0	0	0	0	0
1972	176	75	0	0	0	0	0	0	0	0	0	0	0
1973	0	0	0	0	0	0	0	0	0	0	0	0	0
1974	715	89	0	0	0	0	0	0	0	0	0	0	0
1975	0	0	0	0	0	0	0	0	0	0	0	0	0
1976	0	0	0	0	0	0	0	0	0	0	0	0	0
1977	0	0	0	0	0	0	0	0	0	0	0	0	0
1978	0	0	0	0	0	0	0	0	0	0	0	0	0
1979	0	0	0	0	0	0	0	0	0	0	0	0	0
1980	0	0	0	0	0	0	0	0	0	0	0	0	0
1981	162	0	0	0	0	0	0	0	0	0	0	0	0
1982	0	0	0	0	0	0	0	0	0	0	0	0	0
1983	0	0	0	0	0	0	0	0	0	0	0	0	0
1984	0	0	0	0	0	0	0	0	0	0	0	0	0
1985	0	0	0	0	0	0	0	0	0	0	0	0	0
1986	0	0	0	0	0	0	0	0	0	0	0	0	0
1987	0	0	0	0	0	0	0	0	0	0	0	0	0
1988	0	0	0	0	0	0	0	0	0	0	0	0	0
1989	0	0	0	0	0	0	0	0	0	0	0	0	0
1990	0	0	0	0	0	0	0	0	0	0	0	0	0
1991	0	0	0	0	0	0	0	0	0	0	0	0	0
Average	0	12	176	54	667	437	81	283	783	497	293	79	202

Table A3-10c. DeltaSOS—Simulated DW Operations  
for Alternative 2: DW End-of-Month Storage (TAF)

Water Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1922	0	0	107	232	238	238	238	234	238	238	0	0
1923	238	238	0	238	238	14	0	0	0	0	5	4
1924	0	0	0	0	0	(0)	0	0	0	0	0	0
1925	0	0	0	0	0	222	15	11	4	0	5	0
1926	0	0	0	0	53	238	(0)	0	0	0	0	0
1927	0	238	229	238	238	201	238	234	232	204	(0)	5
1928	0	238	238	238	0	0	0	0	0	0	0	0
1929	0	0	0	0	288	14	11	0	0	0	0	0
1930	0	0	0	0	0	0	0	0	0	0	0	0
1931	0	0	53	150	18	0	0	0	0	0	0	0
1932	0	0	0	0	0	0	0	0	0	0	0	0
1933	0	0	0	0	123	0	0	0	0	0	0	0
1934	0	0	0	0	288	14	0	111	60	0	0	0
1935	0	0	0	0	238	238	234	202	(0)	0	0	0
1936	0	0	0	0	0	222	238	76	(0)	0	0	0
1937	0	238	238	238	238	238	238	238	238	238	0	0
1938	0	238	238	238	0	0	0	0	0	0	0	0
1939	238	238	238	188	238	238	238	204	0	0	0	0
1940	0	0	238	238	238	238	238	238	238	238	231	0
1941	0	0	238	238	238	226	238	140	0	0	0	0
1942	238	238	238	238	238	238	238	0	0	0	0	0
1943	238	238	0	0	43	0	0	0	0	0	0	0
1944	0	0	104	103	238	238	200	152	145	7	5	0
1945	0	215	238	14	0	0	0	0	0	0	0	0
1946	0	0	0	0	0	0	0	0	0	0	0	0
1947	0	0	0	0	0	0	0	0	0	0	0	0
1948	0	0	0	0	0	0	0	16	4	5	5	0
1949	0	0	0	0	0	0	0	0	0	0	0	0
1950	0	0	0	0	205	238	73	169	(0)	0	0	0
1951	0	238	238	238	238	238	224	217	0	0	25	0
1952	0	71	236	238	238	238	238	238	238	238	0	0
1953	238	238	238	170	9	4	210	0	0	0	0	0
1954	201	238	199	238	238	0	0	0	0	0	0	0
1955	0	6	233	238	116	0	0	0	0	0	0	0
1956	0	0	238	238	238	238	225	238	231	55	0	0
1957	238	206	0	0	174	238	200	194	0	0	12	0
1958	160	238	238	238	238	238	238	238	238	238	229	0
1959	195	238	64	238	238	0	0	0	0	0	0	0
1960	0	0	2	(0)	145	(0)	0	0	0	0	0	0
1961	0	0	0	0	205	(0)	0	0	0	0	0	0
1962	0	0	0	0	222	152	85	55	(0)	0	0	0
1963	238	105	174	238	6	0	238	105	27	0	0	0
1964	0	0	0	0	57	238	190	(0)	5	0	0	0
1965	0	39	238	238	186	137	133	68	61	58	15	0
1966	0	0	238	238	238	238	238	238	238	238	231	0
1967	0	238	238	238	93	238	230	231	228	0	0	0
1968	238	151	139	233	238	141	200	172	147	140	137	0
1969	0	0	238	238	238	238	238	238	238	238	238	0
1970	238	238	238	238	238	238	238	238	238	238	238	0
1971	0	0	0	0	0	0	0	0	0	0	0	0
1972	151	139	233	238	141	200	172	147	140	134	0	0
1973	0	238	233	238	238	238	234	227	17	3	179	0
1974	0	238	238	238	238	238	238	232	81	(0)	44	0
1975	238	238	193	25	(0)	0	0	181	79	0	0	0
1976	0	0	0	0	238	238	234	228	(0)	0	0	0
1977	0	0	0	0	0	0	0	0	0	0	0	0
1978	0	0	0	0	238	238	238	228	(0)	0	0	0
1979	186	196	0	0	238	238	234	227	35	0	0	0
1980	0	175	238	238	238	200	99	(0)	0	0	0	0
1981	176	165	238	198	238	207	147	140	137	0	0	0
1982	0	238	230	238	238	238	238	233	64	238	238	0
1983	238	238	238	238	238	238	238	238	238	238	238	0
1984	238	238	238	238	238	225	186	179	128	5	0	0
1985	186	238	226	28	(0)	0	0	0	0	0	0	0
1986	0	0	24	176	238	238	238	238	238	238	238	0
1987	0	0	0	0	0	68	30	8	-1	5	0	0
1988	0	0	0	2	0	0	0	0	0	0	0	0
1989	0	0	0	0	236	5	0	227	188	181	175	0
1990	0	0	0	0	61	0	4	0	0	0	0	0
1991	0	0	0	0	0	0	0	0	0	0	0	0
Average	65	105	125	161	147	133	130	111	61	30	9	26

Table A3-11. DeltaSOS Mean Annual Simulation Output  
for Alternative 2

Water Year	Sac Basin Year Type	SJR Basin Year Type	Added Sac Flow (TAF)	New SJR Flow (TAF)	Required SJR Flow (TAF)	Added SJR Flow (TAF)	New Stutter Flow (TAF)	Stream, & Stutter Flow (TAF)	DCC Rio Vista Reduction (TAF)	Revised DCC Flow (TAF)	Revised Georgiana & DCC (TAF)	Revised Rio Vista Flow (TAF)	QWEST w/ Initial Export (TAF)
1922	2	2	0	0	15,237	1,682	0	3,037	4,804	0	949	3,631	11,586
1923	3	2	0	0	14,489	1,663	73	2,564	4,395	0	1,567	4,039	824
1924	5	5	0	0	8,586	820	4	2,264	2,261	32	1,115	2,902	465
1925	4	3	0	0	12,064	1,213	29	1,491	3,509	0	3,630	5,437	(1,130)
1926	4	4	0	0	11,614	1,107	0	1,511	3,338	0	1,438	9,040	(667)
1927	1	1	0	0	19,015	1,663	71	1,963	6,229	0	1,355	3,554	(1,037)
1928	2	3	0	0	18,455	1,295	30	1,736	6,051	0	1,477	4,542	212
1929	5	5	0	0	8,696	820	2	1,306	2,314	42	1,147	2,939	(886)
1930	4	5	0	0	10,768	816	28	1,168	3,052	0	1,269	7,368	(1,021)
1931	5	5	0	0	6,775	790	2	1,257	1,651	91	875	2,453	(287)
1932	4	2	0	0	8,618	1,244	0	1,655	2,274	0	1,142	2,924	308
1933	5	5	4	0	7,535	1,04	0	1,388	1,931	97	908	2,579	(326)
1934	5	5	4	0	8,173	820	4	1,205	2,172	66	916	2,658	(423)
1935	3	3	0	0	12,496	1,477	0	2,051	3,700	29	1,301	3,554	(372)
1936	3	3	0	0	13,335	1,585	80	2,221	3,996	0	1,365	3,727	136
1937	3	3	0	0	12,426	1,682	56	2,860	3,671	0	1,290	8,936	804
1938	1	1	0	0	28,179	1,759	78	5,428	9,982	0	1,057	5,533	5,905
1939	4	4	0	0	10,712	1,04	0	1,695	3,007	0	1,498	3,498	(510)
1940	12	2	0	0	17,638	1,585	78	1,973	5,187	0	1,469	4,408	100
1941	1	1	0	0	23,780	1,759	0	3,677	8,822	0	1,370	5,188	2,950
1942	1	1	0	0	25,353	1,759	0	2,986	3,822	0	2,111	5,211	2,793
1943	1	1	0	0	20,972	1,759	78	3,229	6,984	0	1,426	4,820	17,571
1944	4	4	0	0	11,993	1,388	45	1,688	3,253	0	1,423	3,928	(1,164)
1945	4	2	0	0	12,566	1,07	77	2,321	3,714	0	1,386	3,653	(244)
1946	3	3	0	0	16,177	1,585	74	2,146	5,102	0	1,435	3,480	(1,585)
1947	4	4	0	0	10,949	1,056	50	1,607	3,089	0	1,438	3,917	(1,369)
1948	3	3	0	0	13,098	1,140	3	1,421	3,668	0	1,421	4,820	17,571
1949	4	4	0	0	11,993	1,388	49	1,472	3,503	0	1,316	8,292	(1,164)
1950	3	3	0	0	12,811	1,192	0	1,532	3,774	0	1,386	3,498	(65)
1951	2	2	0	0	21,672	1,663	80	2,663	7,244	0	1,526	4,408	13,192
1952	1	1	0	0	15,092	1,244	27	1,812	4,642	0	1,435	3,480	(1,585)
1953	1	1	0	0	28,323	1,759	0	3,023	9,970	0	1,183	3,917	(1,369)
1954	2	3	0	0	19,873	1,295	29	1,601	6,490	0	1,575	1,421	(1,164)
1955	4	4	0	0	11,447	1,056	9	1,374	3,263	0	1,525	3,774	(1,164)
1956	4	3	0	0	21,768	1,759	0	3,270	7,335	0	1,499	3,587	(1,164)
1957	1	1	0	0	15,092	1,244	27	1,812	4,642	0	1,623	5,647	(1,164)
1958	3	3	0	0	26,266	1,759	-1	3,397	9,182	0	1,243	4,364	(1,164)
1959	3	3	0	0	17,716	1,159	69	1,800	4,523	0	1,536	4,778	(1,164)
1960	4	5	0	0	11,393	1,46	30	1,247	3,228	0	1,488	3,587	(1,164)
1961	4	4	0	0	11,459	842	40	1,179	3,280	0	1,434	3,592	(1,164)
1962	3	3	0	0	12,372	1,110	45	1,530	3,632	0	1,434	3,592	(1,164)
1963	1	1	0	0	20,611	1,585	0	1,934	6,877	0	1,499	3,592	(1,164)
1964	4	2	0	0	12,397	1,056	36	1,394	3,615	0	1,488	3,592	(1,164)
1965	5	5	0	0	19,519	1,759	80	2,404	6,453	0	1,455	3,592	(1,164)
1966	1	1	0	0	13,901	1,244	49	2,011	4,172	0	1,434	3,592	(1,164)
1967	1	1	0	0	22,181	1,759	0	3,304	7,439	0	1,475	4,175	(1,164)
1968	3	3	0	0	15,971	1,211	49	1,709	5,020	0	1,623	5,417	(1,164)
1969	1	1	0	0	23,660	1,759	5,442	8,066	1,543	0	1,434	4,064	(1,164)
1970	2	2	0	0	21,543	1,585	74	3,357	7,316	0	1,455	3,756	(1,164)
1971	3	3	0	0	20,939	1,295	0	1,732	6,908	0	1,488	3,592	(1,164)
1972	3	3	0	0	13,210	1,105	0	1,515	3,920	0	1,434	3,592	(1,164)
1973	2	2	0	0	19,810	1,663	0	1,211	4,934	0	1,434	3,592	(1,164)
1974	1	1	0	0	29,264	1,759	2	2,240	10,392	0	1,506	5,006	(1,164)
1975	1	1	0	0	20,440	1,682	0	2,310	6,784	0	1,378	4,592	(1,164)
1976	5	5	0	0	16,824	9	2,943	1,324	1,324	0	3,913	10,033	(1,164)
1977	5	5	0	0	17,729	0	1,016	1,703	3,61	0	1,487	7,844	(1,164)
1978	2	2	0	0	16,859	2,267	5,405	6,529	4,226	0	1,487	9,182	(1,164)
1979	3	3	0	0	13,993	1,585	78	2,378	4,235	0	1,487	8,800	(1,164)
1980	2	2	0	0	18,292	1,759	2	2,240	10,392	0	1,506	5,006	(1,164)
1981	4	4	0	0	13,093	1,159	49	1,962	3,885	0	1,434	4,962	(1,164)
1982	1	1	0	0	29,591	1,759	3	5,389	10,473	36	1,821	4,932	(1,164)
1983	1	1	0	0	35,577	1,759	0	2,267	5,405	31	1,487	4,932	(1,164)
1984	2	2	0	0	23,213	1,585	78	2,252	4,235	0	1,487	4,932	(1,164)
1985	4	4	0	0	13,038	1,107	2	2,240	10,392	0	1,506	4,932	(1,164)
1986	1	1	0	0	18,958	1,682	0	1,682	4,814	0	1,434	4,932	(1,164)
1987	4	4	0	0	10,952	1,682	9	1,682	4,814	38	1,303	4,534	(1,164)
1988	5	5	0	0	9,416	842	6	1,020	3,442	31	1,161	3,457	(1,164)
1989	5	5	0	0	11,782	867	31	1,036	2,288	37	1,324	3,457	(1,164)
1990	5	5	0	0	8,672	816	4	944	995	29	1,143	2,939	(1,164)
Average			0	0	15,998	1,331	27	2,428	5,091	8	1,347	4,990	13,793

Notes: Definitions of the categories are provided in Table A2-3 in Appendix A2.  
Water-year types: 1=wet, 2=above normal, 3=below normal, 4=dry, 5=critically dry  
Negative values shown in parentheses.

Table A3-11. Continued

Water Year	Reduced Export for QWEST (TAF)	Initial Collinsville Outflow (TAF)	Initial Chipp's Outflow (TAF)	Required Delta Outflow (TAF)	Revised Monter. Flow (TAF)	Reduced Export for Outflow (TAF)	Export Limits (TAF)	Reduced Export for Limits (TAF)	Net Export Change (TAF)	Adjusted Total Export (TAF)	Revised QWEST Flow (TAF)	Revised Collinsville Outflow (TAF)
1922	0	12,321	11,391	6,103	930	1	8,364	204	6,389	620	12,117	
1923	0	10,803	9,917	5,833	886	0	9,521	294	6,485	171	10,509	
1924	0	4,180	3,375	4,063	805	3	5,401	4	4,558	(1,146)	4,164	
1925	0	8,292	7,430	5,195	862	3	7,312	16	5,803	(736)	8,223	
1926	0	7,022	6,175	5,066	847	3	6,923	1	5,746	(1,050)	7,009	
1927	0	17,655	16,686	6,980	970	1	10,720	6	6,618	(1,026)	17,280	
1928	0	14,277	13,355	6,665	922	1	10,032	6	4,746	(694)	13,858	
1929	0	4,573	3,760	4,418	813	3	5,435	4	4,583	(906)	4,553	
1930	0	6,245	5,414	5,052	832	3	6,182	8	5,014	(1,026)	6,240	
1931	0	3,702	2,901	3,657	800	3	4,306	0	3,341	(301)	3,688	
1932	0	5,849	5,019	5,190	831	1	5,625	6	4,296	159	5,701	
1933	0	4,313	4,038	4,532	810	3	4,694	0	3,696	(344)	4,295	
1934	0	4,853	4,038	4,532	815	3	4,803	2	3,757	(443)	4,833	
1935	0	9,477	8,584	6,455	893	3	7,413	3	5,992	(438)	9,411	
1936	0	10,877	9,993	6,248	883	3	8,419	25	6,184	105	10,846	
1937	0	9,666	8,791	5,287	874	3	7,752	23	5,902	781	9,643	
1938	0	36,940	35,736	8,125	1,204	1	18,482	6	996	7,223	35,944	
1939	0	6,353	5,520	4,357	833	0	6,865	1	705	5,793	(1,215)	
1940	0	17,676	16,697	7,246	979	1	10,409	27	6,467	53	17,629	
1941	0	30,529	29,403	7,010	1,125	0	16,412	14	6,669	2,557	30,135	
1942	0	27,769	26,688	6,671	1,082	0	16,125	0	1,502	1,502	26,478	
1943	0	20,751	19,767	7,309	984	0	13,363	0	2,097	2,097	19,579	
1944	0	6,521	5,686	4,952	885	3	6,768	9	5,995	(1,231)	6,454	
1945	0	8,664	8,606	5,277	900	3	7,676	9	6,466	(576)	8,332	
1946	0	13,020	12,120	6,279	900	3	7,141	6	6,316	(90)	12,994	
1947	0	5,583	4,756	5,072	866	3	6,751	1	6,039	(1,590)	5,578	
1948	0	7,409	6,543	4,987	843	3	6,947	29	5,720	(1,492)	7,347	
1949	0	7,579	6,725	5,599	854	3	7,295	11	6,180	(1,190)	7,550	
1950	0	20,237	19,264	6,326	972	1	14,970	11	7,129	1,593	19,873	
1951	0	27,785	26,665	7,985	1,120	0	15,877	5	7,541	2,349	27,171	
1952	0	17,375	16,419	6,080	1,956	0	12,676	6	6,812	(741)	15,867	
1953	0	14,909	13,968	7,021	940	0	10,339	0	7,036	(1,189)	14,246	
1954	0	6,255	5,422	5,051	834	0	7,346	7	6,079	(1,480)	6,192	
1955	0	27,158	26,099	5,621	1,058	1	17,795	5	7,128	2,070	26,853	
1956	0	10,196	9,315	5,661	880	2	8,552	1	6,769	(1,223)	9,712	
1957	0	32,590	31,417	7,267	1,173	0	16,086	6	5,96	(505)	31,995	
1958	0	10,755	9,880	5,294	875	0	8,800	11	6,118	(829)	9,813	
1959	0	6,062	5,189	5,097	831	3	6,803	1	5,975	(1,648)	6,063	
1960	0	6,020	5,189	5,097	831	3	6,750	9	5,777	(1,715)	6,018	
1961	0	8,134	7,281	5,063	853	3	7,528	9	5,798	(952)	8,132	
1962	0	18,707	17,694	7,329	1,013	0	11,162	6	6,642	(2,426)	18,220	
1963	0	7,008	6,169	5,143	991	1	7,804	1	5,975	(1,430)	6,947	
1964	0	19,912	18,920	6,670	991	1	14,496	6	6,118	(661)	19,814	
1965	0	8,964	8,102	5,602	862	0	8,613	4	404	(346)	8,560	
1966	0	21,799	20,750	7,553	1,049	0	13,108	6	7,627	(1,185)	21,037	
1967	0	12,778	11,884	5,557	984	0	10,936	6	6,673	(1,067)	11,005	
1968	0	29,568	28,445	7,967	1,123	1	16,813	6	7,313	(4,807)	28,685	
1969	0	28,036	26,997	5,637	1,039	0	18,655	0	1,757	(1,757)	26,278	
1970	0	16,639	15,687	7,094	952	1	12,449	6	6,789	(1,995)	16,478	
1971	0	7,581	6,735	5,409	846	0	7,849	4	404	(1,364)	8,560	
1972	0	17,228	16,266	7,933	962	3	10,117	0	7,627	(1,185)	17,251	
1973	0	19,377	18,410	6,821	878	1	12,919	13	6,932	(1,057)	11,005	
1974	0	32,083	30,958	6,944	1,126	0	19,746	3	6,15	(1,523)	19,220	
1975	0	16,975	16,015	6,627	960	0	10,903	0	1,111	(1,604)	16,478	
1976	0	5,528	4,706	4,416	821	1	6,933	0	1,757	(1,757)	16,478	
1977	0	3,682	2,882	3,657	800	3	4,264	0	24	(307)	16,478	
1978	0	17,228	16,266	7,933	962	3	10,117	0	1,221	(1,221)	16,478	
1979	0	10,275	9,397	5,844	878	1	12,442	0	693	(338)	16,478	
1980	0	23,524	22,522	6,568	1,002	1	14,443	19	711	(6,384)	16,478	
1981	0	8,612	7,757	5,109	0	1	7,849	0	96	(3,529)	16,478	
1982	0	36,973	35,733	7,099	1,240	0	20,240	6	3,076	(1,359)	16,478	
1983	0	64,141	62,588	6,197	1,553	0	31,346	0	1,221	(452)	16,478	
1984	0	30,285	29,222	5,676	1,063	0	20,548	0	693	(338)	16,478	
1985	0	8,501	7,647	5,068	854	4	8,383	4	7,444	(1,523)	16,478	
1986	0	28,103	27,051	6,155	1,052	1	14,333	0	1,111	(1,604)	16,478	
1987	0	5,913	4,819	829	2	6,602	0	24	5,902	(1,337)	16,478	
1988	0	5,167	4,349	4,505	3	6,548	5	47	5,854	(452)	16,478	
1989	0	6,669	5,825	4,818	2	6,313	17	22	5,300	(338)	16,478	
1990	0	4,640	3,825	4,506	3	5,037	2	4,077	5,300	(1,331)	16,478	
1991	0	4,082	4,082	4,082	3	4,808	4	16	3,824	(581)	16,478	
Average	0	14,587	13,656	5,802	931	1	10,292	7	450	6,162	437	14,137

Table A3-11. Continued

Water Year	Available for DW Diversion (TAF)	Delta Storage (TAF)	Delta Storage Diversion Export (TAF)	Delta Storage Outflow (TAF)	Final Total Export (TAF)	Final QWEST Flow (TAF)	Final Delta Outflow (TAF)	3-Mile Slough Flow (TAF)	Old River Diversion Flow (TAF)	Final Antioch Flow (TAF)	Old & Middle River Flow (TAF)
1922	1,073	238	257	225	0	6,614	363	11,860	2,587	1,587	2,950 (5,526)
1923	2,239	238	246	252	0	6,737	(75)	10,263	2,454	1,369	2,379 (5,862)
1924	3	3	3	2	0	4,559	(1,149)	4,161	1,627	825	478 (4,393)
1925	774	222	246	200	0	6,003	(982)	7,977	2,415	852	1,433 (5,629)
1926	432	238	260	230	0	5,976	(1,309)	6,750	2,312	877	1,003 (5,637)
1927	2,854	238	261	237	0	6,854	(424)	17,019	4,219	1,038	3,794 (6,295)
1928	2,473	238	287	260	0	7,006	(981)	13,571	3,723	996	2,742 (6,557)
1929	0	0	0	0	0	4,583	(906)	4,553	1,583	851	677 (4,338)
1930	281	238	244	259	0	5,273	(1,270)	5,996	2,116	764	845 (5,069)
1931	0	0	0	0	0	3,341	(301)	3,688	1,051	831	750 (3,120)
1932	148	150	148	151	0	4,447	11	5,553	1,309	943	1,320 (4,018)
1933	0	0	0	0	0	3,636	(344)	4,295	1,216	853	872 (3,461)
1934	121	123	121	132	0	3,889	(564)	4,712	1,432	805	868 (3,683)
1935	617	238	351	350	0	6,342	(789)	9,060	2,563	1,100	1,774 (5,740)
1936	1,433	238	243	222	0	6,407	(138)	10,603	2,566	1,192	2,428 (5,678)
1937	934	238	259	218	0	6,120	(522)	9,382	1,920	1,494	2,442 (5,071)
1938	8,837	238	431	225	0	7,448	(4,478)	35,514	5,845	3,087	10,323 (4,735)
1939	552	238	84	250	0	6,043	(1,299)	5,564	2,035	995	995 (5,674)
1940	2,660	238	248	227	0	6,694	(195)	17,381	4,173	1,046	3,978 (6,050)
1941	5,962	238	249	224	0	6,893	(2,307)	29,895	5,177	2,157	8,025 (5,083)
1942	5,142	238	260	227	0	7,467	1,242	26,218	5,450	1,534	6,692 (6,379)
1943	4,700	238	246	225	0	6,955	(1,851)	19,334	3,516	1,611	5,367 (5,841)
1944	50	43	50	39	0	6,034	(1,281)	6,405	2,217	984	936 (5,612)
1945	880	238	253	202	0	6,668	(338)	8,079	2,359	1,254	1,530 (5,948)
1946	2,353	238	247	252	0	6,039	(1,599)	5,588	2,199	1,139	2,843 (6,003)
1947	9	5	0	0	0	6,399	(1,519)	6,880	2,562	806	600 (5,693)
1948	27	18	27	27	0	6,370	(1,301)	7,302	2,514	866	1,076 (6,106)
1949	449	238	233	221	0	5,942	(1,301)	7,302	3,860	1,430	5,201 (6,396)
1950	327	238	248	203	0	6,383	(1,438)	12,747	3,181	958	7,070 (6,623)
1951	5,187	238	253	223	0	7,352	(1,341)	19,621	3,860	1,548	1,548 (6,511)
1952	6,016	238	503	220	0	7,761	(1,846)	26,669	5,223	806	1,043 (6,145)
1953	2,567	238	227	0	0	7,039	(747)	15,861	4,130	908	2,610 (7,000)
1954	2,577	238	289	264	0	7,300	(1,479)	13,956	4,089	844	844 (6,037)
1955	709	238	249	246	0	6,326	(1,729)	5,943	2,354	7,171	7,029 (6,057)
1956	5,267	238	270	220	0	7,348	(1,800)	26,583	5,229	1,426	1,426 (6,839)
1957	940	238	488	455	0	7,224	(1,711)	9,224	3,111	964	8,230 (6,167)
1958	6,698	238	493	225	0	7,868	(1,933)	31,501	6,297	2,019	1,806 (6,113)
1959	1,811	238	192	150	0	6,538	(1,021)	9,621	2,827	997	583 (5,794)
1960	159	145	159	141	0	5,996	(1,807)	5,903	2,390	802	495 (5,798)
1961	227	205	227	198	0	5,974	(1,942)	5,791	2,437	763	5,642 (5,642)
1962	827	222	246	201	0	6,000	(1,199)	7,886	2,516	892	1,318 (6,782)
1963	3,055	238	256	220	0	7,358	(761)	17,964	4,621	1,021	3,860 (6,403)
1964	1,263	238	312	306	0	6,281	(1,743)	6,635	2,526	869	784 (6,027)
1965	3,157	238	429	401	0	7,150	(232)	19,334	4,414	1,646	4,423 (4,853)
1966	1,218	238	248	202	0	7,009	(1,612)	8,312	2,844	1,110	1,232 (6,482)
1967	4,461	238	498	226	0	7,853	(687)	20,539	4,427	1,729	5,113 (6,515)
1968	2,134	238	23	207	0	6,763	(1,090)	10,982	3,181	943	2,091 (6,400)
1969	6,436	238	497	225	0	7,583	(4,309)	28,188	4,231	3,097	8,541 (4,853)
1970	5,616	238	16	207	0	6,996	(1,978)	26,262	5,062	1,632	7,040 (5,866)
1971	3,002	238	406	375	0	7,349	(752)	16,072	4,180	993	3,428 (6,884)
1972	609	322	217	0	0	6,962	(2,201)	6,929	2,847	902	646 (6,696)
1973	4,138	238	498	226	0	7,149	(418)	20,539	4,427	1,729	5,113 (6,515)
1974	6,244	238	433	217	0	7,661	(1,091)	10,982	3,181	943	2,091 (6,400)
1975	2,724	238	124	213	0	7,818	(316)	15,740	3,864	1,632	7,040 (5,866)
1976	567	238	195	231	0	5,326	(5,326)	5,237	2,099	755	546 (5,230)
1977	0	0	0	0	0	3,076	(452)	3,658	1,128	676	676 (5,050)
1978	2,713	238	238	229	0	5,955	(708)	15,765	3,301	1,158	4,009 (5,174)
1979	1,050	238	432	405	0	6,903	(770)	9,150	2,575	1,220	1,805 (6,192)
1980	5,331	238	246	220	0	6,605	(3,283)	22,567	3,483	1,154	7,479 (6,989)
1981	782	238	195	231	0	6,747	(1,630)	15,740	3,864	1,176	3,549 (7,176)
1982	8,680	238	509	221	0	8,002	(5,930)	35,949	5,150	3,355	4,228 (6,884)
1983	21,447	238	49	243	0	8,377	(708)	61,128	4,099	9,324	22,677 (5,174)
1984	8,815	238	11	201	0	7,280	(5,714)	27,771	3,374	3,669	9,088 (4,156)
1985	1,578	238	242	248	0	6,499	(1,150)	7,942	2,503	1,103	1,353 (5,937)
1986	6,120	238	250	227	0	6,722	(4,514)	27,626	3,986	2,756	8,500 (4,328)
1987	72	68	234	244	0	5,904	(1,389)	5,794	2,137	919	748 (5,598)
1988	417	237	234	244	0	4,700	(1,205)	4,923	1,831	685	626 (4,590)
1989	236	234	250	227	0	5,504	(1,567)	6,411	2,577	810	4,099 (4,099)
1990	60	61	0	4141	0	4,568	(884)	4,573	1,573	633	690 (4,099)
1991	4	4	0	3,824	(585)	4,858	1,477	634	893	893 (3,788)	(5,514)
Average	2,575	198	225	202	0	6,364	212	13,912	3,149	1,370	3,361 (5,514)

**Table A3–12. Monthly Percentiles for DeltaSOS Simulations  
for Alternative 2**

DW diversion (cfs)

Percentile	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0
40	0	0	0	15	0	0	0	0	0	0	0	0
50	0	0	13	15	30	49	0	0	0	0	0	0
60	0	25	13	15	31	49	0	0	0	85	0	0
70	53	25	13	90	31	49	0	0	0	86	0	0
80	1,020	906	384	990	31	49	76	99	0	86	0	0
90	3,019	4,000	1,744	3,326	2,465	657	76	99	37	86	67	734
100	3,871	4,000	3,871	3,871	4,000	3,871	3,125	312	118	130	115	4,000
Mean	641	698	502	658	438	236	92	31	12	43	10	379

DW storage (TAF)

Percentile	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
0	0	0	0	(0)	(0)	(0)	0	0	(0)	(0)	(0)	(0)
10	0	0	0	0	0	0	0	0	(0)	0	(0)	0
20	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	61	14	0	0	0	0	0	0	0
40	0	0	2	226	145	15	30	8	0	0	0	0
50	0	0	174	238	222	226	200	99	0	5	0	0
60	0	196	233	238	238	238	225	169	0	5	0	0
70	39	238	238	238	238	238	234	204	62	5	0	0
80	201	238	238	238	238	238	232	147	28	0	0	0
90	238	238	238	238	238	238	238	238	233	137	4	164
100	238	238	238	238	238	238	238	238	238	238	238	238
Mean	65	105	125	161	147	133	130	111	61	30	9	26

DW discharge for export (cfs)

Percentile	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	266	114	0	0	0
80	0	0	0	0	1,065	181	0	457	2,228	443	0	0
90	0	0	123	0	3,353	2,309	414	880	3,283	2,614	933	0
100	0	515	3,335	2,721	4,000	3,822	1,053	3,771	3,780	3,741	3,755	2,861
Mean	0	12	176	54	667	437	81	283	783	497	293	79

DW discharge for outflow (cfs)

Percentile	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0
80	0	0	0	0	0	0	0	0	0	0	0	0
90	0	0	0	0	0	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0	0	0	0	0	0
Mean	0	0	0	0	0	0	0	0	0	0	0	0

Final CVP Tracy and SWP Banks exports (cfs)

Percentile	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
0	4,278	3,314	5,051	4,859	6,090	3,469	2,842	2,455	1,145	1,896	597	3,296
10	5,115	5,373	7,351	9,055	7,140	4,750	3,622	3,174	5,500	4,447	3,508	3,617
20	6,844	6,628	8,569	11,101	9,758	6,363	3,840	3,781	5,568	6,887	4,790	5,915
30	7,982	7,360	10,426	11,380	11,332	10,265	4,414	4,296	5,804	8,729	5,143	6,076
40	8,490	8,371	11,114	11,444	11,633	11,268	5,623	5,362	6,321	10,396	6,183	6,393
50	9,045	10,658	11,265	11,568	11,941	11,268	6,573	6,047	7,001	11,280	7,118	6,568
60	9,700	11,280	11,280	11,768	12,048	11,461	7,380	7,176	8,380	11,280	7,889	6,822
70	11,280	11,280	11,295	11,873	12,462	11,461	8,476	8,380	9,733	11,280	9,116	8,100
80	11,280	11,280	11,393	12,266	12,700	11,499	9,203	9,410	10,551	11,280	10,293	10,087
90	11,280	11,280	11,503	12,700	12,700	11,700	9,950	9,950	11,280	11,280	11,280	11,280
100	11,280	11,280	11,700	12,700	12,700	11,700	11,280	11,280	11,280	11,280	11,280	11,280
Mean	8,958	9,113	10,304	11,261	11,156	9,864	6,764	6,508	7,778	9,489	7,192	7,248

Table A3-13a. DeltaSOS—Simulated DW Operations  
for Alternative 3: DW Diversions to Storage (cfs)

Water Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total (TAF)
1922	0	0	1,744	2,047	3,207	98	0	345	235	0	158	123	462
1923	4,297	2,434	26	29	59	0	0	0	0	0	0	0	426
1924	0	0	0	0	0	6,000	0	0	0	0	0	0	4
1925	0	0	0	0	0	869	61	98	151	0	0	0	371
1926	0	0	4,137	721	2,080	29	0	0	0	0	0	0	423
1927	0	6,000	822	0	0	0	0	0	0	0	0	0	437
1928	0	0	0	0	0	4,477	0	0	0	0	0	0	467
1929	0	0	0	0	0	0	179	0	0	0	0	0	0
1930	0	0	0	0	0	0	0	0	0	0	0	0	0
1931	0	0	0	0	0	0	0	0	0	0	0	0	0
1932	0	0	863	1,593	0	0	0	0	0	0	0	0	0
1933	0	0	0	0	0	2,005	0	0	0	0	0	0	0
1934	0	0	0	0	0	6,000	0	0	0	0	0	0	0
1935	0	0	0	0	0	6,000	704	98	0	0	0	0	0
1936	0	0	0	0	0	6,000	704	1,281	0	0	0	0	0
1937	0	0	0	0	0	6,000	61	98	151	0	0	0	0
1938	0	0	6,000	822	29	0	0	0	0	0	0	0	0
1939	4,006	50	26	0	0	0	0	0	0	0	0	0	0
1940	0	0	6,000	632	61	98	151	0	0	0	0	0	0
1941	0	1,257	26	29	61	0	0	0	0	0	0	0	0
1942	5,435	6,000	673	26	29	61	98	151	0	0	0	0	0
1943	0	0	0	0	0	742	0	0	0	0	0	0	0
1944	0	0	1,686	0	5,537	98	0	0	0	0	0	0	0
1945	0	0	3,606	3,140	29	0	0	0	0	0	0	0	0
1946	0	0	0	0	0	0	0	0	0	0	0	0	0
1947	0	0	0	0	0	0	0	0	0	0	0	0	0
1948	0	0	0	0	0	0	0	0	0	0	0	0	0
1949	0	0	0	0	0	0	0	0	0	0	0	0	0
1950	0	0	0	0	0	3,326	1,946	0	0	0	0	0	0
1951	0	0	6,000	822	29	61	98	0	0	0	0	0	0
1952	0	1,238	5,431	63	59	0	0	151	0	0	0	0	0
1953	2,452	50	26	583	0	0	0	0	0	0	0	0	0
1954	3,262	3,502	145	6,000	603	61	98	0	0	0	0	0	0
1955	0	0	0	0	0	0	0	0	0	0	0	0	0
1956	0	0	0	0	0	0	0	0	0	0	0	0	0
1957	6,000	0	0	0	0	0	0	0	0	0	0	0	0
1958	2,610	2,273	1,868	2,844	29	61	0	0	0	0	0	0	0
1959	2,980	50	0	0	0	0	0	0	0	0	0	0	0
1960	0	0	76	0	0	0	0	0	0	0	0	0	0
1961	0	0	0	0	0	0	0	0	0	0	0	0	0
1962	0	0	0	0	0	0	0	0	0	0	0	0	0
1963	6,000	673	26	102	61	98	151	0	0	0	0	0	0
1964	1,761	5,054	0	1,054	0	0	0	0	0	0	0	0	0
1965	0	0	6,000	632	61	0	0	0	0	0	0	0	0
1966	632	6,000	189	29	61	98	151	0	0	0	0	0	0
1967	0	0	0	0	0	0	0	0	0	0	0	0	0
1968	1,960	50	26	5,519	1,113	61	98	151	0	0	0	0	0
1969	0	0	0	0	0	0	0	0	0	0	0	0	0
1970	902	0	6,000	822	29	0	0	0	0	0	0	0	0
1971	0	0	0	4,227	104	0	0	0	0	0	0	0	0
1972	2,451	0	1,111	118	61	98	0	0	0	0	0	0	0
1973	0	5,702	6,000	822	29	61	98	151	0	0	0	0	0
1974	0	0	0	0	0	0	0	0	0	0	0	0	0
1975	3,753	50	26	0	0	0	0	0	0	0	0	0	0
1976	5,388	637	0	7	0	0	0	0	0	0	0	0	0
1977	0	0	0	0	0	0	0	0	0	0	0	0	0
1978	0	0	0	0	0	0	0	0	0	0	0	0	0
1979	3,019	235	0	0	0	0	0	0	0	0	0	0	0
1980	0	0	0	0	0	0	0	0	0	0	0	0	0
1981	2,867	0	2,939	3,785	35	59	98	0	0	0	0	0	0
1982	0	0	6,000	1,350	2,606	0	773	0	0	0	0	0	0
1983	735	50	26	29	153	61	98	151	0	0	0	0	0
1984	106	50	26	29	59	0	0	0	0	0	0	0	0
1985	0	0	3,754	0	420	0	4,181	98	0	0	0	0	0
1986	0	0	0	0	0	0	1,106	0	0	0	0	0	0
1987	0	0	0	0	0	0	0	0	0	0	0	0	0
1988	0	0	0	0	0	0	0	0	0	0	0	0	0
1989	0	0	0	0	0	0	0	0	0	0	0	0	0
1990	0	0	0	0	0	0	0	0	0	0	0	0	0
1991	0	0	0	0	0	0	0	0	0	0	0	0	0
Average	996	1,152	954	976	761	322	110	55	24	80	19	445	356

Table A3-13b. DeltaSOS—Simulated DW Operations  
for Alternative 3: DW Discharge to Export Wheeling (cfs)

Water Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total (TAF)
1922	0	0	0	0	0	0	0	0	0	0	0	0	368
1923	0	0	0	0	0	0	0	0	0	0	0	0	424
1924	0	0	0	0	0	0	0	0	0	0	0	0	289
1925	0	0	0	0	0	0	0	0	0	0	0	0	336
1926	0	0	0	0	0	0	0	0	0	0	0	0	374
1927	146	0	0	0	0	0	0	0	0	0	0	0	390
1928	0	0	0	0	0	0	0	0	0	0	0	0	296
1929	0	0	0	0	0	0	0	0	0	0	0	0	0
1930	0	0	0	0	0	0	0	0	0	0	0	0	0
1931	0	0	0	0	0	0	0	0	0	0	0	0	0
1932	0	0	0	0	0	0	0	0	0	0	0	0	0
1933	0	0	0	0	0	0	0	0	0	0	0	0	0
1934	0	0	0	0	0	0	0	0	0	0	0	0	0
1935	0	0	0	0	0	0	0	0	0	0	0	0	0
1936	0	0	0	0	0	0	0	0	0	0	0	0	0
1937	0	0	0	0	0	0	0	0	0	0	0	0	0
1938	0	0	0	0	0	0	0	0	0	0	0	0	0
1939	0	0	0	0	0	0	0	0	0	0	0	0	0
1940	0	0	0	0	0	0	0	0	0	0	0	0	0
1941	0	0	0	0	0	0	0	0	0	0	0	0	0
1942	0	0	0	0	0	0	0	0	0	0	0	0	0
1943	0	0	0	0	0	0	0	0	0	0	0	0	0
1944	0	0	0	0	0	0	0	0	0	0	0	0	0
1945	0	0	0	0	0	0	0	0	0	0	0	0	0
1946	0	0	0	0	0	0	0	0	0	0	0	0	0
1947	0	0	0	0	0	0	0	0	0	0	0	0	0
1948	0	0	0	0	0	0	0	0	0	0	0	0	0
1949	0	0	0	0	0	0	0	0	0	0	0	0	0
1950	0	0	0	0	0	0	0	0	0	0	0	0	0
1951	0	0	0	0	0	0	0	0	0	0	0	0	0
1952	34	0	0	0	0	0	0	0	0	0	0	0	0
1953	0	0	0	0	0	0	0	0	0	0	0	0	0
1954	0	0	0	0	0	0	0	0	0	0	0	0	0
1955	86	0	0	0	0	0	0	0	0	0	0	0	0
1956	0	0	0	0	0	0	0	0	0	0	0	0	0
1957	473	0	0	0	0	0	0	0	0	0	0	0	0
1958	0	0	0	0	0	0	0	0	0	0	0	0	0
1959	2,788	0	0	0	0	0	0	0	0	0	0	0	0
1960	0	0	0	0	0	0	0	0	0	0	0	0	0
1961	0	0	0	0	0	0	0	0	0	0	0	0	0
1962	0	0	0	0	0	0	0	0	0	0	0	0	0
1963	73	0	0	0	0	0	0	0	0	0	0	0	0
1964	999	0	0	0	0	0	0	0	0	0	0	0	0
1965	5,154	0	0	0	0	0	0	0	0	0	0	0	0
1966	911	0	0	0	0	0	0	0	0	0	0	0	0
1967	0	0	0	0	0	0	0	0	0	0	0	0	0
1968	0	0	0	0	0	0	0	0	0	0	0	0	0
1969	0	0	0	0	0	0	0	0	0	0	0	0	0
1970	0	0	0	0	0	0	0	0	0	0	0	0	0
1971	0	0	0	0	0	0	0	0	0	0	0	0	0
1972	134	0	0	0	0	0	0	0	0	0	0	0	0
1973	75	0	0	0	0	0	0	0	0	0	0	0	0
1974	89	0	0	0	0	0	0	0	0	0	0	0	0
1975	651	0	0	0	0	0	0	0	0	0	0	0	0
1976	2,717	0	0	0	0	0	0	0	0	0	0	0	0
1977	2,055	0	0	0	0	0	0	0	0	0	0	0	0
1978	1,104	0	0	0	0	0	0	0	0	0	0	0	0
1979	0	0	0	0	0	0	0	0	0	0	0	0	0
1980	3,172	0	0	0	0	0	0	0	0	0	0	0	0
1981	120	0	0	0	0	0	0	0	0	0	0	0	0
1982	123	0	0	0	0	0	0	0	0	0	0	0	0
1983	0	0	0	0	0	0	0	0	0	0	0	0	0
1984	0	0	0	0	0	0	0	0	0	0	0	0	0
1985	0	0	0	0	0	0	0	0	0	0	0	0	0
1986	0	0	0	0	0	0	0	0	0	0	0	0	0
1987	0	0	0	0	0	0	0	0	0	0	0	0	0
1988	0	0	0	0	0	0	0	0	0	0	0	0	0
1989	0	0	0	0	0	0	0	0	0	0	0	0	0
1990	0	0	0	0	0	0	0	0	0	0	0	0	0
1991	0	0	0	0	0	0	0	0	0	0	0	0	0
Average	6	10	179	58	784	678	91	270	1,187	777	777	191	302

Table A3-13c. DeltaSOS—Simulated DW Operations for Alternative 3: DW End-of-Month Storage (TAF)

Water Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1922	0	0	107	231	406	406	0	0	21	0	0	0
1923	264	406	406	406	406	406	(0)	0	10	0	0	0
1924	0	0	0	4	4	0	0	0	0	0	0	0
1925	0	0	0	53	383	123	71	62	34	102	(0)	10
1926	0	0	0	333	333	114	102	0	0	0	0	0
1927	0	246	280	406	406	406	406	394	364	62	56	0
1928	0	357	406	406	367	406	397	394	364	0	0	0
1929	0	0	0	0	0	0	0	0	0	0	0	0
1930	0	0	0	275	1	11	0	0	0	0	0	0
1931	0	0	0	0	0	0	0	0	0	0	0	0
1932	0	0	0	53	149	16	0	0	0	0	0	0
1933	0	0	0	0	0	0	0	0	0	0	0	0
1934	0	0	0	123	(0)	27	129	75	0	0	0	0
1935	0	0	0	359	97	27	397	360	69	(0)	0	0
1936	0	0	0	369	406	406	397	234	0	0	0	0
1937	0	357	406	406	406	406	406	406	0	0	0	0
1938	0	406	406	355	110	(0)	0	0	0	0	0	0
1939	406	406	0	369	406	406	406	406	0	0	0	0
1940	0	0	0	369	406	406	406	368	66	0	0	0
1941	0	344	406	406	406	391	406	406	223	0	0	0
1942	369	406	0	406	406	406	406	392	0	0	0	0
1943	0	0	0	0	43	(0)	0	0	0	0	0	0
1944	0	0	0	104	102	364	312	0	0	0	0	0
1945	0	0	0	406	406	0	0	0	0	0	0	0
1946	215	0	0	0	144	0	0	0	0	0	0	0
1947	0	0	0	0	0	0	0	0	0	0	0	0
1948	0	0	0	0	0	0	0	0	0	0	0	0
1949	0	0	0	0	0	0	0	0	0	0	0	0
1950	0	357	406	406	406	406	387	375	72	66	0	0
1951	0	74	404	406	406	406	406	406	225	0	0	0
1952	406	406	406	337	173	164	152	138	0	0	0	0
1953	406	406	372	406	406	406	375	69	63	0	0	0
1954	201	9	371	406	301	0	0	0	10	7	0	0
1955	0	0	369	406	406	388	406	392	77	70	0	0
1956	377	346	115	94	265	406	365	353	0	0	0	0
1957	160	293	406	406	406	406	406	406	406	0	0	0
1958	406	406	233	(0)	145	(0)	0	0	213	0	0	0
1959	0	0	5	0	205	0	0	0	7	0	0	0
1960	0	0	0	0	333	0	0	0	0	0	0	0
1961	1962	0	0	0	0	0	0	0	0	0	0	0
1963	369	406	402	406	406	406	406	406	157	0	0	0
1964	108	406	343	406	106	0	0	0	10	0	0	0
1965	0	0	369	406	406	220	390	339	37	31	0	0
1966	42	396	406	406	352	300	291	223	209	156	(0)	0
1967	0	0	369	406	406	406	406	406	406	70	262	0
1968	406	406	406	406	406	374	310	296	290	52	0	0
1969	0	0	339	406	406	406	406	406	406	110	0	0
1970	406	406	406	406	406	366	315	301	295	(0)	0	0
1971	0	357	406	406	260	406	395	406	386	93	14	0
1972	159	148	401	406	307	364	332	303	289	283	276	33
1973	0	339	401	406	406	397	385	171	154	0	0	0
1974	0	357	406	406	406	406	394	236	32	0	181	0
1975	406	406	364	195	74	0	0	0	0	0	46	0
1976	371	0	0	0	0	0	0	0	0	0	0	0
1977	0	0	0	369	406	406	395	385	342	0	0	0
1978	186	197	0	0	369	406	397	385	189	34	0	0
1979	0	175	406	406	406	364	364	257	(0)	0	0	0
1980	176	166	248	406	364	406	372	308	294	52	(0)	0
1981	0	0	0	0	0	0	0	0	0	0	367	0
1982	0	357	398	406	406	406	406	394	222	21	406	0
1983	406	406	406	406	406	406	394	236	0	0	0	0
1984	406	406	406	406	406	406	406	406	406	0	0	0
1985	186	406	393	194	(0)	0	0	0	0	0	0	0
1986	0	0	26	177	406	68	27	1	0	0	0	0
1987	0	0	5	0	107	0	0	0	0	0	0	0
1988	0	0	0	0	232	223	180	0	0	0	0	0
1989	0	0	0	0	0	0	0	0	0	0	0	0
1990	0	0	0	0	0	0	0	0	0	0	0	0
Average	94	161	208	263	259	232	227	206	127	76	21	34

Table A3-14. DeltaSOS Mean Annual Simulation Output  
for Alternative 3

Water Year	Sac Basin Type	SJR Basin Year Type	Added Sac Flow (TAF)	New Sac Flow (TAF)	Required SJR Flow (TAF)	Added SJR Flow (TAF)	New SJR Flow (TAF)	Steam & Sutter Flow (TAF)	DCC Rio Vista Reduction (TAF)	Revised DCC Flow (TAF)	Revised Georgiana & DCC (TAF)	Revised Rio Vista Flow (TAF)	QWEST w/ Initial Export (TAF)
1922	2	1	0	15,237	1,682	0	3,037	4,804	0	949	3,631	11,586	850
1923	3	2	0	14,489	1,663	73	2,564	4,395	0	1,567	4,039	10,425	491
1924	5	5	0	8,586	820	4	1,264	2,261	32	1,115	2,902	5,437	(1,104)
1925	4	3	0	12,064	1,213	29	1,491	3,509	0	1,438	3,630	9,040	(642)
1926	4	4	0	11,614	1,107	0	1,511	3,338	0	1,419	3,554	8,157	(1,011)
1927	1	2	0	19,015	1,663	71	1,963	6,229	0	1,355	4,501	17,527	238
1928	2	3	0	18,455	1,295	30	1,736	6,051	0	1,477	4,542	14,653	(250)
1929	5	5	0	8,696	820	2	1,306	2,314	42	1,147	2,939	5,573	(861)
1930	4	5	0	10,768	816	28	1,168	3,052	0	1,269	3,310	7,368	(995)
1931	5	5	0	6,775	790	2	1,257	1,651	91	875	2,453	4,103	(261)
1932	4	2	0	8,618	1,244	0	1,655	2,274	0	1,142	2,924	5,630	334
1933	5	4	0	7,535	1,004	0	1,388	1,931	97	908	2,579	4,753	(300)
1934	5	5	0	8,173	820	4	1,205	2,172	66	916	2,658	5,386	(397)
1935	3	2	0	12,496	1,477	0	2,051	3,700	29	1,301	3,554	9,935	(346)
1936	3	2	0	13,335	1,585	80	2,221	3,996	0	1,365	3,727	10,821	161
1937	3	1	0	12,426	1,682	56	2,860	3,671	0	1,290	3,547	8,936	830
1938	1	1	0	28,179	1,759	0	5,428	9,982	0	1,057	5,533	31,093	5,930
1939	4	4	0	10,712	1,004	0	1,695	3,007	0	1,498	3,498	6,983	(484)
1940	2	2	0	17,638	1,585	78	1,973	5,687	0	1,469	4,408	17,640	126
1941	1	1	0	23,780	1,759	0	3,677	8,157	0	1,370	5,188	27,629	2,976
1942	1	1	0	25,353	1,759	0	2,986	8,822	0	1,151	5,211	25,051	2,819
1943	1	1	0	20,972	1,759	78	3,229	6,984	0	1,426	4,820	17,571	3,294
1944	4	3	0	11,388	1,140	45	1,688	3,253	0	1,423	3,528	7,790	(1,138)
1945	3	2	0	12,566	1,507	77	2,321	3,714	0	1,386	3,653	9,005	(218)
1946	3	2	0	16,177	1,585	74	2,146	5,102	0	1,435	4,178	13,192	(39)
1947	4	4	0	10,949	1,056	50	1,607	3,089	0	1,438	3,480	7,285	(1,559)
1948	3	3	0	13,098	1,140	3	1,421	3,868	0	1,630	3,917	8,948	(1,404)
1949	4	3	0	11,993	1,140	49	1,472	3,503	0	1,421	3,616	8,292	(1,013)
1950	3	3	0	12,811	1,192	0	1,532	3,774	0	1,525	3,793	8,851	(1,135)
1951	2	2	0	21,672	1,663	80	2,663	7,244	0	1,526	5,004	18,363	1,983
1952	1	1	0	28,323	1,759	0	3,023	9,970	0	1,183	5,647	24,889	2,988
1953	1	3	0	18,839	1,295	0	1,965	6,162	0	1,240	4,362	16,711	792
1954	2	3	0	19,873	1,295	29	1,601	6,490	0	1,575	4,778	15,551	(501)
1955	4	4	0	11,447	1,004	0	1,365	3,263	0	1,488	3,587	7,775	(1,391)
1956	1	1	0	21,768	1,759	0	3,270	7,335	0	1,499	5,011	24,852	2,400
1957	2	3	0	15,092	1,244	27	1,812	4,642	0	1,623	4,175	11,044	(714)
1958	1	1	0	26,266	1,759	1	3,397	9,182	0	1,243	5,417	29,612	3,048
1959	3	4	0	14,716	1,159	69	1,800	4,523	0	1,536	4,064	10,754	138
1960	4	5	0	11,339	846	30	1,247	3,228	0	1,455	3,546	7,825	(1,622)
1961	4	5	0	11,459	842	40	1,179	3,280	0	1,434	3,545	7,844	(1,688)
1962	3	3	0	12,372	1,110	45	1,530	3,632	0	1,418	3,656	9,182	(925)
1963	1	2	0	20,611	1,585	0	1,934	6,877	0	1,184	4,566	18,800	7
1964	4	4	0	12,397	1,056	36	1,394	3,615	0	1,540	3,756	8,495	(1,343)
1965	1	1	0	19,519	1,759	80	2,404	6,453	0	1,378	4,592	19,247	784
1966	3	3	0	13,901	1,244	49	2,011	4,172	0	1,502	3,913	10,033	(934)
1967	1	1	0	22,181	1,759	0	3,304	7,439	0	1,144	4,729	19,913	1,973
1968	3	4	0	15,971	1,211	49	1,709	5,020	0	1,525	4,226	12,181	732
1969	1	1	0	23,660	1,759	0	5,442	8,066	0	1,543	5,297	23,945	5,716
1970	1	2	0	21,543	1,585	74	3,357	7,316	0	1,506	5,006	24,373	3,778
1971	1	3	0	20,939	1,295	0	1,732	6,908	0	1,583	4,932	16,920	(159)
1972	3	4	0	13,210	1,107	0	1,515	3,920	0	1,524	3,842	9,253	(1,523)
1973	2	2	0	19,810	1,663	78	2,252	6,529	0	1,487	4,717	18,433	1,021
1974	1	1	0	29,264	1,759	2	2,240	10,392	0	1,580	6,144	30,030	2,164
1975	1	1	0	20,440	1,682	0	2,310	6,784	0	1,674	4,962	16,153	945
1976	5	5	0	10,456	820	9	1,169	2,943	4	1,324	3,307	6,917	(1,237)
1977	5	5	0	6,824	790	0	1,016	1,703	36	821	2,391	4,233	(402)
1978	2	1	0	16,859	1,729	0	2,267	5,405	31	1,187	4,063	15,113	2,197
1979	3	2	0	13,993	1,585	78	2,378	4,235	0	1,449	3,884	10,011	381
1980	2	1	0	18,292	1,759	0	4,818	6,032	0	1,267	4,358	19,356	4,265
1981	4	4	0	13,093	1,159	49	1,962	3,885	0	1,436	3,756	9,162	(410)
1982	1	1	0	29,591	1,759	3	5,389	10,473	0	1,562	6,157	30,065	6,979
1983	1	1	0	35,577	1,759	0	15,726	12,980	0	1,050	6,551	42,561	21,616
1984	1	2	0	23,213	1,585	74	6,524	7,985	0	1,190	4,958	22,157	8,253
1985	4	4	0	13,038	1,107	50	1,909	3,861	0	1,485	3,790	9,191	(565)
1986	1	1	0	18,958	1,682	0	4,814	6,463	0	1,300	4,534	23,167	5,017
1987	4	5	0	10,952	846	16	1,661	3,102	0	1,383	3,437	7,300	(1,245)
1988	5	5	0	9,416	790	6	1,020	2,563	38	1,161	3,048	6,236	(935)
1989	4	5	0	11,782	842	31	1,036	3,442	31	1,324	3,490	8,090	(1,283)
1990	5	5	0	8,675	790	4	944	2,288	52	1,143	2,939	5,561	(786)
1991	5	5	0	8,612	816	37	995	2,286	29	1,072	2,863	5,552	(538)
Average			0	15,998	1,330	27	2,428	5,091	8	1,347	4,090	13,793	912

Notes: Definitions of the categories are provided in Table A2-3 in Appendix A2.

Water-year types: 1=wet, 2=above normal, 3=below normal, 4=dry, 5=critically dry

Negative values shown in parentheses.

Table A3-14. Continued

Water Year	Reduced Export for QWEST (TAF)	Initial Collinsville Outflow (TAF)	Initial Chippewa Outflow (TAF)	Required Delta Monitor Flow (TAF)	Revised Monitor Flow (TAF)	Reduced Export for Outflow (TAF)	Export Limits (TAF)	Reduced Export for Outflow (TAF)	Export Limits for Outflow (TAF)	Net Export Change (TAF)	Adjusted Total Export (TAF)	Revised QWEST Flow (TAF)	Revised Collinsville Outflow (TAF)
1922	0	12,347	11,416	6,103	931	0	8,364	13	220	6,405	630	12,127	
1923	0	10,829	9,942	5,833	887	0	9,521	4	302	6,493	189	10,527	
1924	0	4,206	3,401	4,063	805	0	5,401	2	37	4,579	(1,141)	4,169	
1925	0	8,317	7,456	5,195	862	0	7,312	8	86	5,821	(727)	8,232	
1926	0	7,048	6,200	5,006	847	0	6,923	11	29	5,762	(1,040)	7,019	
1927	0	17,681	16,711	6,980	970	0	10,720	6	6	6,635	(155)	17,289	
1928	0	14,380	13,380	6,665	922	0	10,032	4	434	6,761	(683)	13,869	
1929	0	4,598	3,785	4,418	813	0	5,435	0	40	4,604	(901)	4,558	
1930	0	6,271	5,439	5,052	832	0	6,182	9	27	(1,022)	(1,040)	6,244	
1931	0	3,728	2,927	3,657	801	0	4,306	9	36	3,363	(297)	3,692	
1932	0	5,875	5,044	5,190	831	0	5,625	6	171	4,319	163	5,704	
1933	0	4,359	3,528	4,050	811	0	4,694	0	44	3,722	(344)	4,295	
1934	0	4,879	4,064	4,532	816	0	4,803	2	3780	(440)	(429)	4,836	
1935	0	9,503	8,610	6,455	894	0	7,413	3	83	6,008	113	9,420	
1936	0	10,902	10,019	6,248	884	0	8,419	25	48	6,202	10,854	10,854	
1937	0	9,691	8,817	5,287	1,205	0	18,482	44	45	5,923	786	9,647	
1938	0	36,966	35,761	8,125	1,205	0	18,482	1	1,006	7,233	4,924	35,959	
1939	0	6,379	5,545	4,357	833	0	6,865	1	715	5,803	(1,199)	5,664	
1940	0	17,702	16,722	7,246	979	0	10,409	27	67	6,487	59	17,635	
1941	0	30,554	29,429	7,010	1,126	0	16,412	14	410	6,684	2,567	30,145	
1942	0	27,795	26,713	6,671	1,082	0	16,125	0	73	7,250	1,518	26,494	
1943	0	20,777	19,793	7,309	984	0	13,363	0	1,188	6,746	2,106	19,589	
1944	0	6,547	5,712	4,952	833	0	6,788	84	6,013	(1,223)	(1,177)	6,483	
1945	0	8,690	7,832	5,277	858	0	11,239	351	6,485	(569)	(77)	8,340	
1946	0	13,046	12,145	7,010	1,120	0	11,239	38	6,329	(1,579)	5,589	13,007	
1947	0	19,411	18,429	6,277	900	0	6,751	20	6,053	(1,477)	7,362	15,882	
1948	0	7,435	6,569	5,487	828	0	7,141	73	6,374	7,118	7,118	7,563	
1949	0	7,168	6,324	4,921	844	0	6,947	49	5,741	(1,062)	(1,178)	6,073	
1950	0	7,605	6,751	5,599	854	0	7,295	42	6,193	(1,458)	(1,458)	6,214	
1951	0	20,263	19,290	6,326	973	0	14,970	11	376	7,142	1,606	19,886	
1952	0	27,811	26,891	7,985	1,120	0	15,787	5	6,25	7,551	2,364	27,187	
1953	0	17,401	16,445	6,080	956	0	12,676	0	1,519	6,823	15,882	15,882	
1954	0	14,935	13,984	7,021	941	0	10,339	0	6,77	7,050	1,178	14,257	
1955	0	6,281	5,447	5,051	834	0	7,342	7	67	6,084	(1,070)	6,073	
1956	0	27,183	26,125	6,221	1,059	0	17,795	15	317	7,141	(2,083)	26,866	
1957	0	10,221	9,341	5,661	881	0	8,552	5	496	6,782	(1,210)	9,726	
1958	0	32,616	31,443	7,267	1,173	0	16,086	6	603	7,650	2,444	32,013	
1959	0	10,781	9,906	5,294	875	0	8,800	6	953	6,129	(814)	9,828	
1960	0	6,088	5,256	5,203	832	0	6,803	12	15	5,871	(1,537)	6,073	
1961	0	6,045	5,214	5,097	831	0	7,528	19	5,923	(1,707)	6,027	6,214	
1962	0	8,160	7,307	5,063	853	0	11,162	20	5,816	(944)	8,140	8,140	
1963	0	18,732	17,719	7,329	1,013	0	7,804	1	7,149	(1,490)	18,235	18,235	
1964	0	7,034	6,195	5,143	839	0	14,496	6	71	5,985	(1,494)	6,693	
1965	0	19,937	18,446	6,670	992	0	6,803	14	6,765	6,670	(1,494)	9,828	
1966	0	8,990	8,128	5,602	863	0	8,613	14	413	6,815	(1,346)	8,578	
1967	0	21,825	20,776	7,553	1,049	0	13,108	13	771	7,636	(1,202)	21,053	
1968	0	12,804	11,909	5,557	895	0	9,256	0	1,783	6,565	(1,051)	11,021	
1969	0	29,594	28,470	7,967	1,124	0	16,813	0	1,786	7,636	4,819	28,698	
1970	0	28,062	27,022	5,637	1,039	0	18,655	0	1,767	6,798	2,011	26,295	
1971	0	16,665	15,713	7,094	952	0	12,449	6	413	6,815	(332)	16,492	
1972	0	7,607	6,760	5,409	847	0	7,849	4	339	6,682	(1,862)	7,268	
1973	0	19,9403	18,436	6,821	967	0	12,919	13	341	6,949	(680)	19,062	
1974	0	32,109	30,983	6,944	1,126	0	19,746	3	626	7,454	(1,538)	15,882	
1975	0	17,001	16,040	6,627	961	0	10,903	0	1,118	7,612	(173)	15,882	
1976	0	5,553	4,732	4,416	800	0	6,343	0	112	5,111	(1,349)	5,441	
1977	0	3,708	3,657	3,657	800	0	4,264	0	50	3,103	(452)	3,658	
1978	0	17,254	16,291	7,933	963	0	10,117	0	709	5,749	(954)	16,012	
1979	0	10,301	9,422	5,844	878	0	8,242	0	1,538	3,148	(328)	9,591	
1980	0	22,547	22,547	6,568	1,002	0	14,443	19	728	6,404	(3,537)	22,821	
1981	0	8,638	7,782	5,109	856	0	7,849	913	6,501	(1,323)	7,725	7,725	
1982	0	36,998	35,758	7,099	1,240	0	20,240	6	526	7,792	(6,453)	36,473	
1983	0	64,167	62,613	6,153	1,553	0	31,346	0	2,964	8,377	(18,653)	61,203	
1984	0	30,310	29,247	5,676	1,063	0	20,548	0	2,513	7,089	(5,741)	27,798	
1985	0	8,527	7,673	5,068	854	0	14,333	4	327	6,261	(891)	8,200	
1986	0	28,129	27,076	6,155	1,053	0	14,333	19	728	6,404	(3,537)	22,821	
1987	0	5,938	4,819	4,819	830	0	5,602	6	61	5,869	(1,306)	5,877	
1988	0	4,535	4,375	4,375	818	0	5,648	6	30	4,476	(6,163)	5,163	
1989	0	6,694	5,851	4,844	844	0	6,313	17	35	4,099	(1,318)	6,660	
1990	0	4,665	3,851	4,506	815	0	5,037	2	41	4,099	(820)	4,632	
1991	0	4,904	4,087	4,088	816	0	4,808	4	34	3,848	(579)	4,863	
Average	0	14,612	13,681	5,802	931	0	10,291	7	464	6,177	448	14,148	

Table A3-14. Continued

Water Year	Available for DW Diversion (TAF)	Delta Storage (TAF)	Delta Storage Export (TAF)	Delta Storage Outflow (TAF)	Total Export (TAF)	Final QWEST Flow (TAF)	Final Delta Outflow (TAF)	Final Slough Flow (TAF)	3-Mile Slough Flow (TAF)	Old River Diversions (TAF)	Old River Antioch Flow (TAF)	Old & Middle River Flow (TAF)
1922	1,073	406	462	368	0	6,773	167	11,664	2,648	1,587	2,816	(5,685)
1923	2,247	406	426	424	0	6,916	(1,236)	10,101	2,504	1,369	2,268	(6,042)
1924	4	4	4	0	0	4,579	(1,144)	4,166	1,626	825	482	4,412
1925	779	333	371	289	0	6,110	(1,099)	7,861	2,452	852	1,353	(5,735)
1926	436	383	423	336	0	6,098	(1,463)	6,596	2,360	1,038	897	(5,759)
1927	2,857	406	437	374	0	7,009	(1,591)	16,852	4,271	3,680	6,450	(6,702)
1928	2,476	406	467	390	0	7,151	(1,150)	13,402	3,776	996	2,626	6,702
1929	0	0	0	0	0	4,604	(1,450)	4,558	1,581	851	681	(4,359)
1930	281	275	281	296	0	5,333	(1,303)	5,963	2,126	764	823	5,128
1931	0	0	0	3,363	0	(297)	3,692	1,050	831	753	3,142	(3,323)
1932	148	149	148	146	0	4,464	(15)	5,556	1,308	943	4,035	(4,035)
1933	0	0	0	3,722	0	(344)	4,295	1,216	853	872	3,486	(3,486)
1934	121	123	121	130	0	3,910	(1,560)	4,716	1,431	805	871	(3,704)
1935	621	369	484	457	0	6,465	(912)	8,937	2,602	1,690	5,863	(5,863)
1936	1,436	406	419	352	0	6,554	(306)	10,435	2,618	1,192	2,312	(5,825)
1937	934	406	439	371	0	6,294	(347)	9,208	1,974	1,494	2,321	(5,245)
1938	8,844	406	626	368	0	7,601	(7,601)	35,834	5,901	3,087	10,199	(4,886)
1939	559	406	255	412	0	6,215	(1,454)	5,409	2,084	995	629	(5,627)
1940	2,663	406	428	361	0	6,848	(370)	17,206	4,228	1,046	3,858	(6,204)
1941	5,971	406	430	374	0	6,058	(2,136)	29,714	5,771	2,157	7,907	(5,707)
1942	5,146	406	446	370	0	7,620	(1,072)	26,048	5,504	1,534	6,576	(6,532)
1943	4,700	406	424	382	0	7,128	(1,682)	19,165	3,569	1,611	5,251	(6,014)
1944	54	43	54	36	0	6,049	(1,277)	6,408	2,216	984	939	(5,627)
1945	880	406	441	335	0	6,819	(1,010)	7,898	2,416	1,254	1,406	(6,099)
1946	2,359	406	418	416	0	6,744	(1,495)	12,590	3,230	1,339	2,735	(6,180)
1947	17	10	17	0	0	6,053	(1,596)	2,198	1,958	558	603	(5,707)
1948	35	18	35	4	0	6,378	(1,512)	7,327	2,560	806	1,048	(6,153)
1949	449	369	362	336	0	6,077	(1,424)	6,757	2,379	842	955	(5,824)
1950	335	309	324	342	0	6,435	(1,511)	7,228	2,537	866	1,026	(6,158)
1951	5,197	406	432	353	0	7,495	(1,174)	19,455	3,912	1,430	5,087	(6,538)
1952	6,021	406	715	370	0	7,925	(1,649)	26,471	5,283	1,548	6,934	(6,783)
1953	2,569	406	154	345	0	7,169	(1,881)	15,728	4,172	1,084	3,291	(6,640)
1954	1,815	406	471	393	0	7,444	(1,181)	13,786	4,142	908	2,493	(6,743)
1955	719	406	423	404	0	6,010	(1,803)	5,907	2,389	839	1,711	(6,214)
1956	5,272	406	453	363	0	7,504	(1,630)	26,473	5,283	1,430	2,735	(6,702)
1957	947	406	711	624	0	7,405	(1,921)	9,014	3,176	2,019	8,110	(6,318)
1958	6,701	406	685	368	0	8,018	(1,759)	31,328	6,352	2,019	6,110	(6,254)
1959	1,815	406	367	531	0	6,656	(1,181)	9,461	2,877	997	1,692	(6,254)
1960	166	145	166	139	0	6,010	(1,803)	5,907	2,389	802	586	(5,807)
1961	231	205	231	195	0	5,989	(1,938)	5,795	2,436	763	498	(5,812)
1962	832	333	371	293	0	6,109	(1,315)	7,769	2,553	892	1,237	(5,752)
1963	3,057	406	363	7512	0	7,512	(1,905)	17,795	4,674	1,021	3,744	(6,935)
1964	1,274	406	491	469	0	6,454	(1,905)	6,472	2,577	869	672	(6,199)
1965	3,163	406	594	522	0	7,287	(1,77)	19,230	4,463	1,246	4,539	(6,560)
1966	1,225	406	425	334	0	7,149	(1,772)	8,152	2,894	1,110	1,123	(6,622)
1967	4,468	406	694	316	0	6,952	(1,508)	20,360	4,483	1,729	4,991	(6,613)
1968	2,138	406	145	335	0	6,901	(1,508)	10,876	3,214	943	2,018	(6,538)
1969	6,436	406	806	368	0	7,694	(4,013)	27,892	4,324	3,097	8,337	(5,009)
1970	5,623	406	7,142	1,931	0	7,142	(1,931)	26,215	5,076	1,632	7,008	(6,013)
1971	3,059	406	593	522	0	7,484	(2,349)	15,572	4,234	993	3,308	(6,018)
1972	617	406	487	388	0	7,070	(2,349)	6,781	2,893	902	544	(6,805)
1973	4,138	406	427	371	0	7,321	(253)	18,634	4,218	1,204	4,470	(6,463)
1974	6,251	406	615	347	0	7,802	(3,886)	6,711	1,154	7,634	(7,130)	(7,130)
1975	2,727	406	310	356	0	7,968	(4,848)	15,572	3,917	1,176	3,433	(7,327)
1976	567	406	363	393	0	5,905	(1,712)	5,078	2,149	755	437	(5,408)
1977	0	0	0	3,103	0	(453)	3,657	1,129	676	676	3,077	(5,334)
1978	2,713	406	365	6,115	0	(534)	15,591	3,356	1,158	3,890	(5,334)	(5,334)
1979	1,052	607	531	7,045	0	(936)	8,984	2,627	1,220	1,691	6,333	(6,439)
1980	5,331	417	373	6,774	0	(3,121)	22,405	3,534	2,567	6,655	6,616	(6,416)
1981	786	467	384	6,884	0	(1,790)	7,258	2,697	1,068	906	906	(6,416)
1982	8,665	815	344	8,136	0	(5,639)	35,658	5,241	3,355	10,880	(5,108)	(5,108)
1983	21,455	406	136	8,377	0	(18,517)	6,167	4,118	9,324	22,635	760	(4,299)
1984	8,820	406	322	7,423	0	(5,718)	27,775	3,373	3,669	9,091	(4,299)	(4,299)
1985	1,584	419	407	6,668	0	(1,311)	7,781	2,553	1,03	1,243	(6,106)	(6,106)
1986	6,124	406	442	379	0	(4,332)	27,444	4,043	2,756	8,374	(4,495)	(4,495)
1987	76	68	66	5,915	0	(5,801)	5,801	2,135	1,781	919	753	(5,609)
1988	369	366	373	5,487	0	(1,331)	6,416	2,375	646	813	540	(4,738)
1989	244	244	174	5,487	0	(1,562)	4,572	1,572	633	813	5434	(4,119)
1990	60	60	62	3,848	0	(583)	4,659	1,477	634	894	(3,812)	(3,812)
Average	2,579	321	356	302	0	6,479	92	13,792	3,186	1,369	3,279	(5,628)

Table A3-15. Monthly Percentiles for DeltaSOS Simulations  
for Alternative 3

DW diversion (cfs)

Percentile	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0
40	0	0	0	29	0	0	0	0	0	0	0	0
50	0	0	26	29	59	98	0	0	0	0	0	0
60	0	50	26	102	61	98	0	0	0	157	0	0
70	106	235	822	632	61	98	0	0	0	158	0	0
80	2,452	2,434	1,111	1,593	704	98	151	198	0	158	0	0
90	3,763	5,702	4,227	3,326	3,207	773	151	198	37	158	123	778
100	6,000	6,000	6,000	6,000	6,000	6,000	3,000	484	235	260	231	6,000
Mean	996	1,152	964	976	761	322	110	55	24	80	19	445

DW storage (TAF)

Percentile	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
0	0	0	0	(0)	(0)	(0)	0	0	(0)	(0)	(0)	(0)
10	0	0	0	0	0	(0)	0	0	(0)	0	0	0
20	0	0	0	0	1	0	0	0	0	0	0	0
30	0	0	0	102	107	0	0	0	0	0	0	0
40	0	0	5	275	265	123	129	102	0	10	0	0
50	0	0	248	369	337	364	360	234	37	10	0	0
60	0	197	369	406	406	406	387	312	95	31	0	0
70	42	357	402	406	406	406	397	368	209	66	0	0
80	201	406	406	406	406	406	406	394	298	160	8	0
90	406	406	406	406	406	406	406	406	394	275	64	166
100	406	406	406	406	406	406	406	406	406	406	406	406
Mean	94	161	208	263	259	232	227	206	127	76	21	34

DW discharge for export (cfs)

Percentile	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	139	0	271	1,018	0	323	0
80	0	0	0	0	1,184	1,104	29	416	3,283	1,460	873	0
90	0	0	123	0	3,530	2,568	416	839	4,674	2,677	3,435	695
100	425	473	3,740	2,717	6,000	4,975	1,030	3,000	4,899	6,000	5,237	3,917
Mean	6	10	179	58	784	678	91	270	1,187	777	777	191

DW discharge for outflow (cfs)

Percentile	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0
80	0	0	0	0	0	0	0	0	0	0	0	0
90	0	0	0	0	0	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0	0	0	0	0	0
Mean	0	0	0	0	0	0	0	0	0	0	0	0

Final CVP Tracy and SWP Banks exports (cfs)

Percentile	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
0	4,329	3,356	5,087	4,862	6,108	3,360	2,865	2,496	1,207	1,968	653	3,340
10	5,166	5,415	7,387	9,055	7,109	4,810	3,645	3,215	5,500	5,172	3,564	3,661
20	6,895	6,670	8,605	11,101	10,454	7,142	3,873	3,781	5,613	7,470	4,957	5,959
30	8,033	7,402	10,462	11,380	11,632	11,079	4,797	4,300	5,864	9,807	5,199	6,144
40	8,541	8,413	11,176	11,460	11,663	11,268	5,623	5,456	6,550	11,280	7,214	6,449
50	9,096	10,700	11,259	11,578	12,009	11,268	6,573	6,047	8,152	11,280	8,082	6,614
60	9,751	11,280	11,280	11,768	12,097	11,461	7,380	7,176	9,645	11,280	8,944	7,028
70	11,280	11,280	11,298	11,873	12,462	11,461	8,476	8,380	11,280	11,280	10,217	8,266
80	11,280	11,280	11,393	12,266	12,700	11,574	9,203	9,410	11,280	11,280	11,280	10,514
90	11,280	11,280	11,503	12,700	12,700	11,700	9,950	9,950	11,280	11,280	11,280	11,280
100	11,280	11,280	11,700	12,700	12,700	11,700	11,280	11,280	11,280	11,280	11,280	11,280
Mean	8,998	9,134	10,323	11,267	11,275	10,104	6,783	6,517	8,199	9,806	7,723	7,398

Table A3-16a. Adjustments to DWRSIM Delta Exports  
for Cumulative Conditions: DeltaSOS Adjustments (cfs)

Water Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total (TAF)
1922	1	0	1,689	2,001	1,679	3,635	919	3,004	3,534	2	0	0	992
1923	3,873	0	3,959	2,822	5,009	1	714	535	(2)	1	1	1	1,019
1924	0	0	(2)	(1)	0	2	(1)	0	0	0	0	0	(0)
1925	0	0	(2)	(1)	0	2	2,738	0	678	464	0	1	234
1926	0	0	3,959	646	1	830	2,738	(0)	282	2,866	479	1	1,252
1927	0	0	3,959	946	0	3,154	3,134	6,543	0	0	0	0	1,047
1928	1	0	(1)	(1)	0	3,003	(0)	5,930	0	0	0	0	(0)
1929	1	0	(1)	(1)	1	3,033	1	(1)	0	0	0	0	187
1930	(1)	0	0	0	0	(1)	1	76	0	0	0	0	(0)
1931	1	0	0	0	0	(1)	1	(1)	0	0	0	0	273
1932	1	1	1	1	804	1,554	2,166	0	0	0	0	0	0
1933	1	1	(1)	(1)	1	1,966	1	0	0	0	0	0	0
1934	1	0	(1)	(1)	0	2,737	(1)	2,866	541	(1)	(1)	(1)	338
1935	0	0	(1)	(1)	1	2,637	1,679	1	677	0	0	0	119
1936	1	1	(1)	(1)	1	1,679	2,462	920	(268)	4,998	5,817	4,643	2,461
1937	1	1	(1)	(1)	1	1,679	6,058	7,305	1	(1)	(1)	(1)	1,039
1938	0	0	3,959	3,149	2,149	4,417	2,637	(1)	1	0	0	0	0
1939	3,873	0	2,424	3,889	4,417	2,754	2,358	2,774	2,866	5,120	3,958	1	650
1940	0	0	3,047	2,050	1,679	4,030	5,120	3,211	0	2	2	1	1,198
1941	0	0	6,786	7,182	6,726	4,155	7,300	1,655	0	0	0	0	2,343
1942	3,873	0	3,959	6,049	7,043	6,477	7,300	0	0	0	0	0	2,191
1943	3,873	0	(1)	(1)	0	607	1,097	0	(1)	(1)	(1)	(1)	103
1944	1	1	1,630	3,576	3,176	583	584	(1)	629	584	578	605	578
1945	0	0	2,979	2,532	0	0	1	380	969	0	81	212	605
1946	0	0	(1)	(1)	0	2,962	553	0	0	0	0	0	324
1947	1	0	(1)	(1)	2	0	1	380	969	0	81	212	1,046
1948	0	0	(1)	(1)	0	0	1	380	969	0	81	212	1,941
1949	0	0	(1)	(1)	0	0	1	380	969	0	81	212	2,146
1950	1	1	(2)	(1)	1	2,934	624	1	0	0	0	0	1,726
1951	2	1	3,959	2,647	1,771	3,888	3,969	609	513	0	0	0	2,761
1952	1	1	1,547	3,196	1,771	2,051	6,990	4,503	3,458	5,048	0	0	2,461
1953	4,952	5,218	6,812	9,682	5,786	2,157	2,818	6,360	6,113	406	372	0	1,039
1954	3,515	5,959	5,883	5,883	5,883	6,360	6,360	6,360	6,360	0	0	0	650
1955	2	2	454	3,247	2,864	(0)	1	406	372	0	0	0	3,657
1956	(2)	0	3,199	1,771	1,828	6,058	888	3,004	(0)	0	0	0	3,657
1957	3,873	(1)	(1)	0	6,208	6,830	0	451	0	0	0	0	2,146
1958	2,863	2,582	3,128	2,690	3,443	6,445	5,449	3,004	4,131	0	0	0	1,046
1959	3,873	4,932	663	7,941	8,767	1	0	(1)	(1)	0	0	0	1,541
1960	1	1	(1)	(1)	1	2,391	(0)	1	0	0	0	0	1,440
1961	1	1	0	(1)	2	2,815	(0)	1	0	0	0	0	1,35
1962	1	1	0	(1)	0	2,245	(0)	(1)	1,276	1,276	1,276	1,276	1,440
1963	3,873	3,749	3,284	461	5,280	3,170	2,862	(2)	(2)	(2)	(2)	(2)	553
1964	1,973	3,959	(1)	3,241	0	1	0	3,210	(1)	(1)	(1)	(1)	601
1965	1	(1)	3,192	1,771	1,794	(1)	1	380	551	(1)	(1)	(1)	882
1966	894	3,959	1,423	2,427	2,669	2,724	4,116	3,632	4,643	1,801	0	0	3,657
1967	1	(2)	2,974	2,584	3,716	8,148	8,148	7,210	4,617	(1)	(1)	(1)	2,125
1968	5,558	5,559	5,480	10,261	9,665	7,735	5,033	7,210	4,617	(1)	(1)	(1)	2,566
1969	0	(2)	3,251	2,127	2,868	7,853	7,853	5,033	7,210	4,617	(1)	(1)	3,657
1970	3,873	7,013	7,073	9,800	9,678	7,957	1	380	1	0	0	0	2,206
1971	1	3,959	3,089	2,882	0	4,310	534	1,125	(1)	(1)	(1)	(1)	2,758
1972	2,704	3,959	3,286	2,606	1,499	3,844	6,664	6,664	648	513	1	1	958
1973	0	3,959	3,250	2,927	2,118	6,664	6,664	6,664	6,664	648	513	1	847
1974	0	3,959	3,463	3,463	6,181	6,008	3,210	736	937	2,136	0	0	1,210
1975	3,873	2,724	3,732	4,041	8,482	6,856	0	0	0	0	0	0	3,012
1976	3,873	3,959	0	15	716	(0)	2	(1)	1	0	0	0	1,790
1977	0	(1)	1	0	0	1	0	0	0	0	0	0	2,020
1978	(1)	544	(1)	1	4,137	9,047	9,220	5,447	1,831	0	0	0	516
1979	3,272	544	(1)	1	3,793	6,664	5,194	6,366	527	(1)	(1)	(1)	3,657
1980	1	3,278	3,168	1,879	6,419	8,404	1,802	(256)	(1)	(1)	(1)	(1)	746
1981	3,120	189	3,584	7,182	3,484	5,612	1	1	0	0	0	0	516
1982	0	3,959	3,283	2,485	2,775	5,758	6,293	5,158	40	7,221	7,104	3,978	3,657
1983	3,873	6,602	6,564	8,393	9,872	9,552	8,306	8,627	7,221	(1)	(1)	(1)	2,013
1984	7,838	9,601	9,258	11,282	10,356	8,159	611	1,380	322	(1)	(1)	(1)	5,512
1985	3,272	3,959	2,792	3,997	2,10	4,253	5,943	(544)	(1)	(1)	(1)	(1)	3,524
1986	1	(1)	347	1,679	1,489	0	0	0	0	0	0	0	851
1987	223	0	(1)	1	3,227	0	3,098	586	586	(1)	(1)	(1)	103
1988	1	1	0	1	953	(0)	1	1	0	0	0	0	194
1989	2	0	0	1	0	3,098	1	1	0	0	0	0	222
1990	0	1	1	1	(1)	0	0	0	0	0	0	0	58
1991	1	1	0	1	(1)	0	0	0	0	0	0	0	(0)
Average	1,183	1,769	1,849	2,699	2,881	3,086	1,395	915	484	128	57	451	1,018

Table A3-16b. Adjustments to DWRSIM Delta Exports  
for Cumulative Conditions: DeltaSOS Adjusted Exports (cfs)

Water Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total (TAF)
1922	6,551	6,936	13,161	14,147	14,500	13,992	8,921	11,760	14,811	3,359	4,477	6,503	7,177
1923	14,900	14,500	11,005	11,575	8,040	4,125	2,791	6,801	6,526	11,288	11,287	6,368	7,210
1924	8,063	7,486	11,005	11,575	8,040	4,125	2,791	4,361	6,479	4,893	3,592	4,542	5,969
1925	8,500	6,640	8,870	7,295	14,500	7,948	6,252	6,330	5,128	5,524	11,287	7,966	5,966
1926	9,170	6,930	7,644	12,313	14,500	14,500	14,500	14,500	10,960	8,523	6,457	7,379	5,802
1927	8,909	14,900	11,840	14,500	14,500	14,500	14,500	14,500	14,500	8,180	5,835	6,313	11,328
1928	9,387	14,900	12,309	14,500	11,320	9,695	8,462	4,050	3,042	5,705	9,560	6,299	7,374
1929	6,854	8,670	10,447	9,695	14,500	6,635	11,309	3,589	3,538	5,520	10,026	3,390	4,564
1930	7,525	5,920	9,098	14,500	6,331	10,592	10,960	10,960	10,960	9,296	5,520	5,195	5,196
1931	5,125	4,536	5,711	10,046	6,381	4,263	3,169	2,668	4,266	5,067	537	3,456	3,327
1932	6,132	5,385	12,039	13,020	9,746	3,147	5,097	4,103	2,463	3,427	3,448	5,359	4,420
1933	5,086	5,070	6,015	11,380	7,285	4,810	3,759	3,490	5,464	4,369	854	3,468	3,678
1934	4,481	3,666	8,873	13,474	6,393	6,515	3,660	5,676	4,910	4,096	671	3,537	3,855
1935	4,288	5,723	8,069	14,500	14,500	14,500	14,500	14,500	14,500	14,500	14,500	14,500	14,500
1936	7,317	6,838	7,642	14,500	14,500	11,701	14,500	14,500	14,500	14,500	14,500	14,500	14,500
1937	6,716	6,435	9,922	11,101	14,500	14,500	14,500	14,500	14,500	14,500	14,500	14,500	14,500
1938	7,040	14,900	14,500	14,500	14,500	14,500	14,500	14,500	14,500	14,500	14,500	14,500	14,500
1939	14,900	13,169	11,623	11,036	7,754	5,393	4,175	3,873	5,615	11,288	7,509	5,362	6,127
1940	8,282	6,314	7,372	14,500	14,500	14,500	14,500	14,500	14,500	14,500	14,500	14,500	14,500
1941	8,071	8,732	14,500	14,500	14,500	14,500	14,500	14,500	14,500	14,500	14,500	14,500	14,500
1942	14,900	14,900	14,500	14,500	14,500	14,500	14,500	14,500	14,500	14,500	14,500	14,500	14,500
1943	14,900	10,399	7,368	11,422	12,995	9,462	4,020	3,973	6,623	11,288	6,764	6,075	6,031
1944	9,710	9,194	8,590	7,038	14,500	14,500	14,500	14,500	14,500	14,500	14,500	14,500	14,500
1945	8,970	10,940	13,050	11,286	14,500	11,699	6,465	5,685	6,313	11,287	10,233	6,245	7,070
1946	10,559	14,886	14,500	14,500	14,500	14,500	14,500	14,500	14,500	14,500	14,500	14,500	14,500
1947	19,47	8,383	11,303	10,935	10,454	8,217	4,338	3,896	5,432	11,287	6,386	6,033	8,293
1948	9,681	7,999	7,767	10,910	6,428	6,021	6,822	8,677	8,266	10,204	6,754	5,055	7,749
1949	11,027	9,194	8,590	7,038	14,500	5,499	4,852	6,202	10,057	5,789	6,545	5,903	6,031
1950	9,169	7,074	6,629	14,500	13,579	8,644	6,552	5,395	7,001	11,289	11,288	6,346	6,475
1951	11,029	14,900	14,500	14,500	14,500	12,621	6,853	7,487	6,294	11,287	9,072	6,610	7,812
1952	9,059	12,468	11,303	10,935	10,454	8,217	4,338	3,896	5,432	11,287	6,386	6,033	8,293
1953	14,900	13,105	14,500	14,500	14,500	14,500	14,500	14,500	14,500	14,500	14,500	14,500	14,500
1954	14,542	10,684	9,450	9,443	4,525	3,940	4,310	6,550	11,288	11,288	7,615	6,459	7,846
1955	7,851	11,395	14,500	14,500	14,500	14,500	14,500	14,500	14,500	14,500	14,500	14,500	14,500
1956	7,992	7,771	14,500	14,500	14,500	14,500	14,500	14,500	14,500	14,500	14,500	14,500	14,500
1957	14,900	10,777	7,451	11,375	14,500	14,500	14,500	14,500	14,500	14,500	14,500	14,500	14,500
1958	13,890	13,523	14,500	14,500	14,500	14,500	14,500	14,500	14,500	14,500	14,500	14,500	14,500
1959	14,900	8,456	14,500	14,500	14,500	14,500	14,500	14,500	14,500	14,500	14,500	14,500	14,500
1960	9,000	11,155	9,363	14,500	14,500	14,500	14,500	14,500	14,500	14,500	14,500	14,500	14,500
1961	8,733	8,171	10,868	9,055	7,300	3,571	3,408	5,568	11,287	7,335	6,859	5,932	7,332
1962	8,463	6,874	10,368	7,554	14,500	10,191	4,189	4,916	5,922	11,288	7,174	4,900	9,299
1963	14,900	14,690	14,500	11,924	14,500	11,844	10,960	9,632	7,036	10,061	6,060	8,197	8,092
1964	13,000	14,900	10,270	14,500	6,438	5,073	3,624	3,928	5,613	11,288	7,409	6,467	6,717
1965	7,201	10,359	14,500	14,500	13,760	8,486	11,760	8,673	6,321	11,288	6,993	6,518	7,252
1966	11,921	14,900	12,450	14,500	11,137	10,528	5,623	4,859	5,914	11,288	10,628	6,633	7,285
1967	10,670	14,500	14,500	14,500	14,500	11,760	11,760	14,900	12,576	5,927	7,294	7,190	7,190
1968	14,900	13,200	12,356	14,500	14,500	14,215	4,666	3,869	5,923	11,287	7,537	6,885	7,449
1969	9,074	8,545	14,500	14,500	14,500	14,500	14,500	14,500	14,500	14,500	14,500	14,500	14,500
1970	14,900	14,900	14,500	14,500	14,500	14,500	14,500	14,500	14,500	14,500	14,500	14,500	14,500
1971	9,055	14,900	14,500	14,500	9,028	14,500	6,591	5,086	6,267	11,289	6,386	6,526	7,789
1972	13,731	11,116	14,500	14,500	13,497	9,972	12,287	4,580	8,829	11,287	6,639	10,062	7,771
1973	10,115	14,900	14,500	14,500	14,500	14,500	14,500	14,500	14,500	14,500	14,500	14,500	14,500
1974	10,863	14,900	14,500	14,500	14,500	14,500	14,500	14,500	14,500	14,500	14,500	14,500	14,500
1975	14,900	13,665	13,625	11,681	14,500	14,500	9,203	10,892	10,439	9,669	6,240	11,989	8,513
1976	14,900	14,900	10,586	8,477	9,184	6,038	3,072	3,267	5,896	7,623	3,547	4,042	5,515
1977	5,434	6,432	11,058	4,844	6,067	4,198	2,825	2,395	1,076	1,818	941	3,580	3,053
1978	4,474	3,326	10,813	14,500	14,500	14,500	11,760	8,527	6,613	2,839	4,473	8,219	6,295
1979	14,239	11,485	6,330	14,500	14,500	13,308	7,240	7,039	8,099	8,865	5,186	6,118	7,047
1980	7,829	14,219	14,500	14,500	11,258	12,851	5,027	3,267	5,896	7,623	3,233	4,873	10,445
1981	14,47	11,130	12,749	14,500	14,500	14,500	14,500	14,500	14,500	14,500	14,500	14,500	14,500
1982	8,382	14,900	14,500	14,500	14,500	14,500	14,500	14,500	14,500	14,500	14,500	14,500	14,500
1983	14,900	14,900	14,500	14,500	14,500	14,500	14,500	14,500	14,500	14,500	14,500	14,500	14,500
1984	14,900	14,900	14,500	14,500	14,500	14,500	14,500	14,500	14,500	14,500	14,500	14,500	14,500
1985	14,239	14,900	11,797	8,238	7,407	4,018	4,018	4,417	5,479	11,288	7,550	6,006	6,984
1986	8,727	7,911	11,667	13,863	14,500	14,500	14,500	14,500	14,500	14,500	14,500	14,500	14,500
1987	11,250	8,934	7,784	9,199	9,758	12,327	3,880	3,455	5,534	11,287	8,755	6,020	5,911
1988	6,558	6,113	11,176	14,500	14,500	14,500	14,500	14,500	14,500	14,500	14,500	14,500	14,500
1989	4,629	5,403	6,929	8,317	8,317	4,469	3,621	4,049	5,500	11,288	4,886	3,497	4,640
1990	5,470	3,927	12,208	6,075	6,075	6,384	3,789	2,873	5,452	11,288	6,500	4,123	5,808
1991	4,666	3,855	5,072	6,170	6,170	11,143	3,789	2,873	5,452	11,288	4,228	4,543	3,808
Average	9,968	10,424	11,479	12,759	11,671	10,752	7,249	6,614	7,326	9,026	6,889	7,552	6,730

Table A3-17. DeltaSOS Mean Annual Simulation Output for the No-Project Cumulative Conditions

Water Year	Sac Basin Year Type	SJR Basin Year Type	Added Sac Flow (TAF)	New SJR Flow (TAF)	Required SJR Flow (TAF)	Added SJR Flow (TAF)	New SJR Flow (TAF)	Sutter Flow (TAF)	Rio Vista Reduction (TAF)	DCC DCC Flow (TAF)	Revised DCC & DCC (TAF)	Revised Georgiana (TAF)	Rio Vista Flow (TAF)	Revised QWEST Initial Export (TAF)	
1922	2	1	0	15,237	1,682	0	3,037	4,804	0	949	3,631	11,586	799		
1923	3	2	0	14,489	1,663	73	2,564	4,395	0	1,567	4,039	10,425	440		
1924	5	5	0	8,586	820	4	1,264	2,261	32	1,115	2,902	5,437	(1,155)		
1925	4	3	0	12,064	1,213	29	1,491	3,509	0	1,438	3,630	9,040	(692)		
1926	4	4	0	11,614	1,107	0	1,511	3,338	0	1,419	3,554	8,157	(1,062)		
1927	1	2	0	19,015	1,663	71	1,953	6,228	0	1,355	4,542	14,653	(300)		
1928	2	2	0	18,455	1,244	30	1,736	6,051	0	1,477	2,939	5,573	(911)		
1929	5	5	0	8,696	820	2	1,306	2,314	42	1,147	3,310	7,368	(1,046)		
1930	5	5	0	10,768	816	28	1,168	3,052	0	1,269	4,103	(312)			
1931	5	5	0	6,775	790	2	1,257	1,651	91	0	2,924	5,630	283		
1932	4	2	0	8,618	1,244	0	1,655	2,274	0	1,142	2,924	5,630			
1933	5	4	0	7,535	1,004	0	1,388	1,931	97	908	2,579	4,753	(350)		
1934	5	5	0	8,713	820	4	2,051	2,172	66	916	2,653	5,386	(447)		
1935	3	3	0	12,496	1,477	0	2,051	3,700	29	1,301	3,700	10,821	(111)		
1936	3	3	0	13,335	1,663	80	2,221	3,996	0	1,365	3,727	8,936	780		
1937	3	2	0	12,426	1,682	56	2,860	3,671	0	1,290	3,547				
1938	4	1	0	28,179	1,759	0	5,428	9,982	0	1,057	5,353	31,093	5,880		
1939	4	2	0	10,712	1,004	0	1,695	3,007	78	1,498	6,988	(535)			
1940	2	1	0	17,638	1,585	0	1,973	5,687	3,677	8,157	4,403	17,640	75		
1941	1	1	0	23,780	1,759	0	2,221	3,700	29	1,301	3,727	27,629	2,926		
1942	1	1	0	25,353	1,759	0	2,296	6,982	0	1,290	3,547	8,936	2,769		
1943	1	1	0	20,972	1,759	78	3,299	9,982	0	1,426	4,820	17,571	3,244		
1944	4	3	0	11,388	1,140	45	1,688	3,253	1,423	3,528	3,528	7,790	(1,189)		
1945	3	3	0	12,566	1,507	77	2,321	3,714	3,653	9,005	9,005	(269)			
1946	3	2	0	16,177	1,507	0	2,071	5,102	50	1,607	5,004	18,363	(90)		
1947	4	4	0	10,949	1,056	50	3,089	1,438	4,478	5,647	5,647	24,889	(1,609)		
1948	3	3	0	13,098	1,140	3	1,421	3,868	1,630	3,917	3,917	8,948	(1,455)		
1949	4	4	0	11,993	1,140	49	1,472	3,503	1,421	3,616	3,616	8,292	(1,064)		
1950	3	3	0	12,811	1,192	80	2,663	3,744	3,793	8,851	8,851	(1,185)			
1951	3	2	0	21,672	1,683	80	3,023	9,970	5,004	18,363	18,363	(90)	(1,932)		
1952	1	2	0	28,323	1,759	0	1,965	6,162	1,623	5,417	5,417	24,889	2,938		
1953	1	1	0	18,839	1,295	29	1,800	6,490	1,240	4,362	4,362	16,711	742		
1954	1	1	0	11,447	1,004	0	1,365	3,263	1,499	5,011	5,011	24,852	(2,350)		
1955	4	2	0	21,768	1,759	27	3,270	7,335	1,499	5,011	5,011	24,852	(2,350)		
1956	1	1	0	15,092	1,244	45	1,812	4,642	1,623	4,175	4,175	11,044	(765)		
1957	1	1	0	15,092	1,759	1	3,325	9,182	1,83	5,417	5,417	29,611	2,997		
1958	1	1	0	26,286	1,759	1	3,677	1,243	1,240	4,064	4,064	10,754	88		
1959	1	1	0	14,716	1,59	69	1,800	4,523	1,536	3,756	3,756	15,551	(551)		
1960	4	3	0	11,339	846	30	1,247	3,228	1,488	3,546	3,546	7,825	(7,775)		
1961	4	4	0	11,459	842	40	1,779	3,280	1,434	3,545	3,545	7,824	(1,441)		
1962	3	3	0	12,372	1,110	45	1,530	3,632	1,418	4,226	4,226	12,181	(2,350)		
1963	3	2	0	15,971	1,211	49	1,709	5,020	1,525	5,297	5,297	23,945	5,665		
1964	4	4	0	15,971	1,759	40	1,934	6,877	1,84	4,566	4,566	18,800	(463)		
1965	4	5	0	12,397	1,056	36	1,394	3,615	1,540	3,756	3,756	8,495	(1,394)		
1966	1	3	0	19,519	1,759	80	2,011	4,453	1,502	4,592	4,592	19,247	(734)		
1967	1	4	0	22,181	1,244	49	3,304	7,439	1,44	4,729	4,729	10,033	(984)		
1968	1	4	0	15,971	1,211	49	1,709	5,020	1,525	4,226	4,226	19,913	(1,922)		
1969	1	1	0	23,660	1,759	40	5,442	8,066	1,543	5,297	5,297	23,945	(566)		
1970	1	1	0	21,543	1,585	74	3,357	7,316	1,506	5,006	5,006	24,373	(1,394)		
1971	1	1	0	20,939	1,295	0	1,732	6,908	1,583	4,932	4,932	16,920	(1,922)		
1972	3	2	0	13,210	1,107	0	1,515	3,920	1,524	3,842	3,842	9,253	(1,574)		
1973	2	1	0	19,810	1,663	78	2,252	6,529	1,487	4,717	4,717	18,433	681		
1974	1	4	0	29,264	1,759	2	2,20	10,392	1,580	6,144	6,144	30,030	2,113		
1975	1	1	0	20,440	1,682	2,310	6,784	0	1,674	4,962	4,962	16,153	894		
1976	5	5	0	10,456	820	9	1,169	2,943	4,324	3,307	3,307	6,917	(210)		
1977	5	5	0	6,824	790	0	1,016	1,703	36	2,391	2,391	4,233	(453)		
1978	2	1	0	17,29	0	2,267	5,405	31	1,827	4,063	4,063	15,113	2,146		
1979	3	2	0	13,993	1,585	78	2,378	4,235	0	1,449	3,884	10,011	330		
1980	2	1	0	18,292	1,759	4,818	6,032	0	1,267	4,358	19,356	4,215			
1981	4	4	0	13,093	1,159	49	3,889	3,885	0	1,436	3,756	9,162	(461)		
1982	1	4	0	29,591	1,759	3	10,473	10,473	1,562	6,157	6,157	30,065	6,928		
1983	1	1	0	35,577	1,759	0	15,726	12,980	1,428	6,551	6,551	42,561	(21,566)		
1984	1	1	0	23,213	1,585	74	6,924	7,985	0	1,495	4,953	22,157	8,203		
1985	4	4	0	13,038	1,107	50	1,682	4,814	0	1,485	3,790	9,191	(615)		
1986	1	4	0	10,952	846	16	1,651	3,102	0	1,900	4,534	23,167	4,966		
1987	4	4	0	9,416	790	6	1,020	2,563	38	1,161	3,437	7,300	(1,295)		
1988	5	5	0	11,782	842	31	1,342	3,442	52	1,143	3,437	3,437	(986)		
1989	4	5	0	8,675	790	34	1,020	2,288	52	1,143	3,499	8,090	(1,334)		
1990	5	5	0	8,672	816	37	1,020	2,286	29	1,072	2,863	5,561	(637)		
Average			0	15,998	1,329	26	2,427	5,091	8	1,347	4,090	13,793	862		

Notes: Definitions of the categories are provided in Table A2-3 in Appendix A2.

Water-year types: 1=wet, 2=above normal, 3=below normal, 4=dry, 5=extremely dry

Negative values shown in parentheses.

Table A3-17. Continued

Water Year	Reduced Export for QWEST (TAF)	Initial Collinsville Outflow (TAF)	Initial Chippewa Outflow (TAF)	Required Delta Montez Outflow (TAF)	Revised Montez Flow (TAF)	Reduced Export for Outflow (TAF)	Reduced Export Limits (TAF)	Reduced Export for Outflow (TAF)	Net Export Change (TAF)	Adjusted Total Export (TAF)	Revised QWEST Flow (TAF)	Revised Collinsville Outflow (TAF)	Revised Outflow (TAF)
1922	0	12,296	11,366	6,103	930	0	8,364	0	992	7,177	11,304	(193)	11,304
1923	0	10,778	9,892	5,833	886	0	9,521	0	1,019	7,210	9,759	(579)	9,759
1924	0	4,155	3,351	4,063	804	-1	5,401	0	(0)	4,542	4,155	(1,154)	4,155
1925	0	8,267	7,406	5,195	861	0	7,312	0	234	5,969	8,033	(926)	8,033
1926	0	6,997	6,151	5,006	847	0	6,923	0	232	5,966	6,765	(1,294)	6,765
1927	0	17,631	16,661	6,980	969	0	10,032	0	1,047	7,494	(1,065)	(1,065)	16,379
1928	0	14,252	13,331	6,665	921	0	5,435	0	(0)	7,374	(1,347)	13,205	13,205
1929	0	4,548	3,735	4,418	812	0	6,182	0	187	4,564	4,548	(911)	4,548
1930	0	6,220	5,389	5,052	831	0	4,306	0	(0)	5,196	(1,233)	6,083	6,083
1931	0	3,677	2,877	3,657	800	0	4,327	0	3,377	3,377	(312)	3,679	3,679
1932	0	5,925	4,994	5,190	890	0	5,625	0	273	4,420	5,552	10	5,552
1933	0	4,288	3,478	4,050	810	0	4,694	0	0	3,678	(351)	4,288	4,288
1934	0	4,829	4,014	4,532	815	0	4,803	0	119	3,855	(566)	4,710	4,710
1935	0	9,453	8,560	6,455	893	0	4,743	0	338	6,263	(734)	9,115	9,115
1936	0	10,852	9,969	6,248	883	0	8,419	0	333	6,487	(223)	10,518	10,518
1937	0	9,641	8,767	5,287	874	0	7,752	0	289	6,167	491	9,352	9,352
1938	0	36,915	35,711	8,125	1,204	0	18,482	0	2,461	8,187	3,419	34,455	34,455
1939	0	6,328	5,496	4,357	832	0	6,865	0	1,039	6,127	(1,574)	5,289	5,289
1940	0	17,651	16,673	7,246	979	0	10,409	0	650	7,070	(575)	17,001	17,001
1941	0	30,504	29,379	7,010	1,125	0	16,412	0	1,198	7,473	1,727	29,305	29,305
1942	0	27,745	26,663	1,081	1,081	0	2,343	0	2,191	2,191	25,401	18,536	18,536
1943	0	19,743	7,309	983	0	13,363	0	0	0	7,749	1,053	(1,292)	(1,292)
1944	0	6,496	5,662	4,952	834	0	6,788	0	103	6,031	(1,292)	6,394	6,394
1945	0	12,095	12,095	5,277	858	0	7,966	0	578	6,712	(847)	8,062	8,062
1946	0	5,558	4,732	5,072	827	0	6,206	0	605	6,033	(1,609)	5,558	5,558
1947	0	7,384	6,519	5,487	865	0	7,141	0	81	6,382	(1,536)	7,303	7,303
1948	0	7,117	6,275	4,921	843	0	6,947	0	212	5,903	(1,275)	6,906	6,906
1949	0	5,554	5,701	5,599	853	0	7,295	0	324	6,475	(1,509)	7,230	7,230
1950	0	20,212	19,240	6,326	972	0	14,970	0	1,046	7,812	886	19,166	19,166
1951	0	17,350	16,395	7,985	1,119	0	15,787	0	8,868	997	25,819	25,819	25,819
1952	0	26,641	6,080	7,022	899	0	12,676	0	1,022	7,846	(1,405)	15,204	15,204
1953	0	13,944	7,040	940	940	0	1,046	0	7,332	(1,811)	13,508	13,508	13,508
1954	0	5,937	5,051	833	1,734	0	1,741	0	443	6,459	(1,584)	5,788	5,788
1955	0	27,133	26,075	6,221	1,058	0	17,795	0	1,941	1,941	1,328	26,111	26,111
1956	0	10,771	9,291	5,661	880	0	8,552	0	1,046	7,332	(1,811)	9,125	9,125
1957	0	32,566	31,393	7,267	1,173	0	16,808	0	2,253	2,253	30,313	30,313	30,313
1958	0	10,730	9,856	5,294	874	0	1,541	0	6,717	(1,453)	9,189	9,189	9,189
1959	0	6,038	5,206	5,203	832	0	6,803	0	144	6,000	(1,817)	5,894	5,894
1960	0	5,995	5,164	5,097	830	0	6,750	0	170	5,945	(1,908)	5,825	5,825
1961	0	8,109	7,257	5,063	852	0	7,528	0	135	5,932	(1,111)	7,582	7,582
1962	0	18,682	17,669	7,329	1,012	0	11,162	0	1,440	8,092	(1,484)	17,242	17,242
1963	0	6,984	6,145	5,143	839	0	7,804	0	553	6,467	(1,947)	6,431	6,431
1964	0	19,665	18,987	6,670	862	0	14,496	0	601	7,252	(1,33)	15,253	15,253
1965	0	8,940	8,078	5,602	862	0	8,613	0	882	7,285	(1,867)	9,286	9,286
1966	0	21,774	20,726	7,553	1,048	0	13,108	0	2,125	8,990	(203)	19,649	19,649
1967	0	12,533	11,860	5,557	894	0	9,256	0	2,666	7,449	(1,985)	10,087	10,087
1968	0	19,352	18,386	6,821	1,123	0	16,813	0	2,206	8,636	3,459	27,337	27,337
1969	0	32,058	30,933	28,420	1,125	0	19,746	0	2,020	8,513	(1,125)	25,253	25,253
1970	0	28,011	26,973	5,537	1,038	0	18,655	0	2,758	958	7,771	(1,168)	15,656
1971	0	16,614	15,663	7,094	951	0	12,449	0	882	8,285	(1,240)	16,709	16,709
1972	0	7,556	6,710	5,409	846	0	7,849	0	1,788	7,818	(240)	18,142	18,142
1973	0	19,352	18,386	6,821	966	0	12,919	0	1,210	8,619	323	30,268	30,268
1974	0	32,058	30,933	28,420	1,125	0	19,746	0	2,020	7,758	969	27,337	27,337
1975	0	16,950	15,990	6,627	960	0	10,903	0	0	7,252	7,252	15,656	15,656
1976	0	5,503	4,682	4,416	821	0	6,343	0	516	5,515	(1,803)	4,987	4,987
1977	0	3,657	2,858	3,657	799	0	4,264	0	0	3,053	(453)	3,657	3,657
1978	0	17,203	16,242	7,933	962	0	10,117	0	1,788	6,295	358	15,415	15,415
1979	0	10,250	9,372	5,844	878	0	8,242	0	1,243	7,047	(913)	9,007	9,007
1980	0	23,499	22,497	6,944	1,001	0	14,443	0	1,488	7,161	2,727	22,011	22,011
1981	0	8,857	7,733	5,109	1,025	0	14,333	0	15	7,161	2,727	22,011	22,011
1982	0	36,948	35,709	1,239	1,239	0	20,240	0	2,020	7,758	7,758	27,227	27,227
1983	0	64,116	62,564	6,197	1,552	0	31,346	0	5,218	10,631	16,348	58,898	58,898
1984	0	30,260	29,197	5,676	1,062	0	20,548	0	3,524	8,100	4,679	26,736	26,736
1985	0	8,476	7,623	5,068	853	0	8,383	0	877	6,811	(1,492)	7,600	7,600
1986	0	28,078	27,026	6,155	1,052	0	14,333	0	33	851	7,119	4,115	4,115
1987	0	5,888	5,059	4,819	829	0	6,602	0	103	5,911	(1,398)	5,785	5,785
1988	0	5,442	4,325	4,505	817	0	6,548	0	194	4,640	(1,180)	4,948	4,948
1989	0	0	5,801	4,813	843	0	6,313	0	58	4,123	(894)	6,422	6,422
1990	0	4,615	4,038	4,506	814	0	5,037	0	(0)	3,808	(589)	4,557	4,557
1991	0	0	4,853	4,088	816	0	0	0	0	0	0	13,544	13,544
Average	0	14,562	13,631	5,802	930	0	10,291	1	1,018	6,730	(156)	6,730	6,730

Table A3-17. Continued

Water Year	Available for DW Diversion (TAF)	Delta Storage (TAF)	Delta Storage Diversion (TAF)	Delta Storage Export (TAF)	Delta Storage Outflow (TAF)	Total Export (TAF)	Final QWEST Flow (TAF)	Final Delta Outflow (TAF)	3-Mile Slough Flow (TAF)	Old River Diversion Flow (TAF)	Final Antioch Flow (TAF)
1922	276	0	0	0	0	0	7,177	(193)	11,304	2,761	1,587
1923	1,512	0	0	0	0	0	7,210	(579)	9,759	2,612	1,369
1924	0	0	0	0	0	0	4,542	(1,154)	4,155	1,629	825
1925	597	0	0	0	0	0	5,969	(926)	8,033	2,398	852
1926	201	0	0	0	0	0	5,986	(1,294)	6,765	2,307	1,471
1927	1,984	0	0	0	0	0	7,494	(1,065)	16,379	4,419	1,038
1928	1,823	0	0	0	0	0	7,374	(1,347)	13,205	3,838	996
1929	0	0	0	0	0	0	4,564	(911)	4,548	1,585	851
1930	85	0	0	0	0	0	5,196	(1,233)	6,033	2,104	764
1931	0	0	0	0	0	0	3,327	(312)	3,677	1,054	831
1932	0	0	0	0	0	0	4,420	(10)	5,552	1,309	943
1933	0	0	0	0	0	0	3,678	(351)	4,288	1,218	853
1934	0	0	0	0	0	0	3,855	(566)	4,710	1,433	805
1935	335	0	0	0	0	0	6,263	(734)	9,115	2,546	871
1936	1,139	0	0	0	0	0	6,487	(223)	10,518	2,592	743
1937	657	0	0	0	0	0	6,167	(491)	9,352	1,929	1,494
1938	7,361	0	0	0	0	0	3,419	(3,419)	34,455	6,176	3,087
1939	7,203	0	0	0	0	0	6,127	(1,574)	5,289	2,121	995
1940	2,037	0	0	0	0	0	7,070	(575)	17,001	4,292	1,046
1941	5,154	0	0	0	0	0	7,473	(1,727)	29,305	5,899	2,157
1942	4,079	0	0	0	0	0	8,293	(425)	25,401	5,706	1,584
1943	3,663	0	0	0	0	0	7,749	(1,053)	18,536	3,766	1,611
1944	0	0	0	0	0	0	6,031	(1,292)	6,394	2,221	984
1945	656	0	0	0	0	0	6,712	(847)	8,062	2,365	1,254
1946	1,793	0	0	0	0	0	6,895	(6,033)	12,390	3,293	1,135
1947	0	0	0	0	0	0	6,382	(1,536)	7,303	2,203	958
1948	0	0	0	0	0	0	5,903	(1,275)	6,906	2,567	806
1949	254	0	0	0	0	0	6,459	(1,275)	6,306	2,333	842
1950	21	0	0	0	0	0	7,812	(886)	7,230	2,536	866
1951	4,503	0	0	0	0	0	7,846	(886)	19,166	4,003	1,490
1952	4,681	0	0	0	0	0	7,332	(1,811)	26,111	5,377	1,711
1953	1,918	0	0	0	0	0	7,322	(744)	9,125	3,142	964
1954	1,496	0	0	0	0	0	6,459	(1,884)	25,819	5,490	1,548
1955	319	0	0	0	0	0	8,991	(2,278)	15,204	4,336	1,084
1956	4,550	0	0	0	0	0	5,894	(1,405)	13,158	4,339	908
1957	361	0	0	0	0	0	5,932	(1,111)	26,111	5,377	2,019
1958	5,027	0	0	0	0	0	7,974	(1,497)	9,125	2,962	997
1959	1,191	0	0	0	0	0	6,717	(1,453)	9,899	2,403	889
1960	0	0	0	0	0	0	6,000	(1,817)	5,788	2,403	519
1961	45	0	0	0	0	0	5,945	(1,908)	5,825	2,427	763
1962	679	0	0	0	0	0	5,932	(1,111)	7,974	2,489	892
1963	2,088	0	0	0	0	0	8,092	(1,484)	17,242	4,847	1,021
1964	756	0	0	0	0	0	6,467	(1,947)	6,431	2,590	869
1965	2,633	0	0	0	0	0	7,252	(1,33)	19,286	4,445	1,246
1966	726	0	0	0	0	0	7,285	(1,867)	8,057	2,924	576
1967	3,092	0	0	0	0	0	8,990	(203)	19,649	4,706	1,729
1968	1,224	0	0	0	0	0	7,449	(1,985)	10,087	3,462	943
1969	1,559	0	0	0	0	0	8,636	(3,459)	27,337	4,498	3,097
1970	4,600	0	0	0	0	0	7,789	(969)	25,253	5,378	1,632
1971	2,192	0	0	0	0	0	7,771	(1,168)	15,656	4,310	993
1972	76	0	0	0	0	0	7,190	(2,421)	6,709	2,916	902
1973	3,238	0	0	0	0	0	7,818	(240)	18,142	4,372	1,204
1974	5,056	0	0	0	0	0	8,619	(323)	30,268	6,899	1,154
1975	1,805	0	0	0	0	0	8,513	(1,125)	14,930	4,118	1,176
1976	131	0	0	0	0	0	5,515	(1,803)	4,987	2,178	993
1977	0	0	0	0	0	0	5,053	(453)	15,656	4,310	3,142
1978	2,135	0	0	0	0	0	6,295	(358)	6,557	2,916	495
1979	488	0	0	0	0	0	7,947	(913)	15,415	3,411	1,158
1980	4,573	0	0	0	0	0	7,161	(2,727)	22,011	3,687	1,220
1981	1,881	0	0	0	0	0	6,984	(1,857)	7,191	2,718	2,567
1982	7,155	0	0	0	0	0	9,219	(1,857)	34,935	2,178	2,993
1983	19,190	0	0	0	0	0	10,631	(1,913)	4,679	2,620	3,744
1984	7,825	0	0	0	0	0	8,100	(4,679)	22,011	3,687	1,021
1985	1,002	0	0	0	0	0	6,811	(1,492)	26,736	6,899	1,033
1986	5,487	0	0	0	0	0	7,119	(4,115)	27,227	4,111	2,756
1987	1,877	0	0	0	0	0	5,911	(1,398)	5,785	2,140	919
1988	218	0	0	0	0	0	4,640	(1,180)	4,948	1,823	685
1989	24	0	0	0	0	0	6,500	(1,556)	6,422	2,374	646
1990	0	0	0	0	0	0	4,123	(894)	4,557	1,577	817
1991	0	0	0	0	0	0	3,808	(589)	4,853	1,479	634
Average	1,995	0	0	0	0	0	6,730	(156)	13,544	3,264	1,369
											3,108

**Table A3-18. Monthly Percentiles for DeltaSOS Simulations  
for the No-Project Cumulative Conditions**

**Added Sacramento River inflow (cfs)**

Percentile	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0
80	0	0	0	0	0	0	0	0	0	0	0	0
90	0	0	0	0	0	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0	0	0	0	0	0
Mean	0	0	0	0	0	0	0	0	0	0	0	0

**Sacramento River inflow (cfs)**

Percentile	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
0	7,061	6,109	9,315	8,254	11,098	10,037	8,048	6,120	6,807	8,808	5,799	7,127
10	8,521	8,705	11,222	12,430	13,896	12,393	9,755	8,869	13,397	12,587	8,916	7,402
20	10,336	10,557	12,482	13,398	15,973	14,909	11,824	10,598	13,747	14,209	10,687	9,332
30	11,298	11,141	14,318	15,674	19,556	19,999	12,871	10,927	14,216	16,305	11,377	9,951
40	12,599	12,398	15,340	17,189	26,157	22,470	13,660	12,536	14,576	17,952	12,298	10,418
50	13,235	14,986	15,966	23,855	33,032	29,013	16,641	14,307	15,378	20,715	12,690	10,674
60	14,049	16,748	17,880	27,227	38,969	32,372	19,089	15,112	15,853	20,917	13,531	11,337
70	16,315	18,590	26,185	34,299	50,420	38,408	21,535	19,632	17,456	21,204	15,120	11,470
80	20,271	21,117	32,528	47,425	61,379	47,850	37,669	30,496	20,583	21,494	17,359	14,725
90	22,815	31,259	57,571	66,163	70,537	65,427	45,150	41,227	26,443	22,569	19,130	18,106
100	29,964	64,593	85,103	91,517	108,473	97,768	78,803	60,752	51,139	23,363	20,168	24,376
Mean	14,883	17,738	24,595	30,990	38,331	34,402	22,815	19,775	18,021	18,504	13,419	12,052

**Required San Joaquin River flow (cfs)**

Percentile	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
0	1,000	900	900	900	900	900	2,005	2,005	900	900	900	900
10	1,000	900	900	900	900	900	2,005	2,005	900	900	900	900
20	1,500	900	900	900	900	1,330	2,435	2,435	900	900	900	900
30	1,500	900	900	900	1,420	1,420	3,641	2,720	1,420	900	900	900
40	1,500	900	900	900	1,420	2,280	3,880	3,880	1,420	900	900	900
50	1,500	900	900	900	2,130	2,280	3,880	3,880	2,130	900	900	900
60	1,500	900	900	900	2,280	3,420	5,220	5,220	2,280	900	900	900
70	1,500	900	900	900	3,420	3,420	5,220	5,220	3,420	900	900	900
80	1,500	900	900	900	3,420	3,420	6,020	6,020	3,420	900	900	900
90	1,500	900	900	900	3,420	3,420	6,020	6,020	3,420	900	900	900
100	1,500	900	900	900	3,420	3,420	6,020	6,020	3,420	900	900	900
Mean	1,407	900	900	900	2,167	2,425	4,261	4,153	2,253	900	900	900

**Additional San Joaquin River inflow (cfs)**

Percentile	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0
80	0	0	0	0	0	0	13	55	0	0	0	0
90	44	0	0	0	0	0	445	485	1,217	0	0	0
100	44	0	0	108	550	0	833	1,231	1,289	0	61	305
Mean	7	0	0	2	8	0	89	113	202	0	1	6

**New San Joaquin River flow at Vernalis (cfs)**

Percentile	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
0	1,456	1,114	1,018	900	900	1,168	2,005	2,005	1,420	973	900	900
10	1,500	1,410	1,254	1,185	1,507	1,424	2,005	2,005	1,786	1,288	961	1,015
20	1,500	1,689	1,494	1,620	2,280	1,735	2,435	2,435	1,810	1,539	989	1,049
30	1,558	1,886	1,661	1,757	2,372	2,280	3,641	2,766	1,822	1,670	1,021	1,109
40	1,695	2,032	1,915	2,086	2,830	2,280	3,988	3,880	1,870	1,675	1,132	1,155
50	1,826	2,287	2,145	2,460	3,421	2,288	3,988	3,933	2,280	1,685	1,473	1,210
60	1,975	2,393	2,291	2,876	3,737	3,420	5,343	5,220	2,819	1,717	1,670	1,336
70	2,000	2,541	2,509	3,164	4,926	3,420	5,343	5,279	3,420	1,831	1,888	1,573
80	2,763	2,687	3,044	4,199	5,974	4,063	6,195	6,105	3,426	1,974	1,960	1,850
90	3,954	2,938	3,667	5,597	8,381	8,398	6,195	6,105	6,759	2,080	2,135	2,814
100	16,954	11,669	19,380	23,241	35,143	42,741	30,300	27,493	30,126	18,015	6,171	10,520
Mean	2,500	2,462	2,773	3,540	4,871	4,753	5,358	5,048	3,580	2,155	1,538	1,698

Note: Negative values shown in parentheses.

Table A3-18. Continued

## Sutter and Steamboat Slough flow (cfs)

Percentile	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
0	1,235	1,202	2,528	2,109	3,208	2,806	2,026	1,207	1,193	1,616	1,067	1,247
10	1,545	2,289	3,255	3,705	4,245	3,691	2,698	2,354	3,018	2,746	1,644	1,299
20	2,037	3,004	3,724	4,062	5,005	4,616	3,480	3,020	3,138	3,297	2,142	1,753
30	2,330	3,225	4,400	4,896	6,316	6,479	3,868	3,144	3,300	4,042	2,354	1,925
40	2,750	3,693	4,774	5,450	8,768	7,391	4,159	3,744	3,426	4,642	2,650	2,061
50	2,963	4,645	5,003	7,906	11,396	9,850	5,249	4,396	3,709	5,667	2,780	2,138
60	3,242	5,288	5,702	9,172	13,728	11,140	6,145	4,691	3,879	5,743	3,064	2,342
70	4,045	5,962	8,779	11,888	18,384	13,505	7,045	6,344	4,460	5,850	3,617	2,384
80	5,502	6,891	11,200	17,148	23,011	17,323	13,213	10,417	5,618	5,959	4,425	3,478
90	6,454	10,710	21,386	25,078	26,989	24,758	16,217	14,631	8,876	6,361	5,077	4,699
100	10,213	24,397	33,495	36,422	44,317	39,307	30,656	22,743	18,683	6,659	5,463	7,040
Mean	3,683	5,696	8,402	10,936	13,842	12,270	7,686	6,485	4,853	4,875	3,105	2,666

## Delta Cross Channel flow (cfs)

Percentile	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
0	0	0	0	0	0	0	0	0	0	3,345	2,172	2,057
10	2,268	0	0	0	0	0	0	0	0	4,310	3,378	2,333
20	3,706	0	0	0	0	0	0	0	4,467	4,643	3,868	3,502
30	3,899	0	0	0	0	0	0	0	4,537	5,034	4,037	3,675
40	4,177	0	0	0	0	0	0	0	4,645	5,319	4,247	3,799
50	4,396	0	0	0	0	0	0	0	4,694	5,771	4,333	3,865
60	4,569	0	0	0	0	0	0	0	4,863	5,803	4,508	4,027
70	4,791	0	0	0	0	0	0	0	4,942	5,848	4,818	4,059
80	5,421	0	0	0	0	0	0	0	5,117	5,894	5,218	4,743
90	6,020	0	0	0	0	0	0	0	5,737	6,062	5,515	5,345
100	6,345	0	0	0	0	0	0	0	6,429	6,185	5,683	6,341
Mean	4,270	0	0	0	0	0	0	0	4,332	5,369	4,387	4,002

## Delta Cross Channel &amp; Georgiana Slough flow (cfs)

Percentile	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
0	3,887	1,992	2,413	2,276	2,640	2,506	2,249	1,994	4,067	5,057	3,445	3,763
10	4,345	2,335	2,655	2,807	2,989	2,802	2,470	2,356	5,657	6,450	5,104	4,023
20	5,571	2,571	2,813	2,927	3,248	3,115	2,731	2,577	6,703	6,946	5,803	5,279
30	5,848	2,645	3,042	3,211	3,697	3,753	2,862	2,618	6,809	7,539	6,048	5,527
40	6,254	2,803	3,169	3,400	4,545	4,068	2,960	2,820	6,948	7,979	6,357	5,704
50	6,577	3,125	3,247	4,246	5,462	4,922	3,331	3,040	7,054	8,686	6,483	5,799
60	6,835	3,345	3,486	4,686	6,279	5,373	3,638	3,141	7,262	8,737	6,744	6,034
70	7,169	3,575	4,549	5,635	7,910	6,201	3,948	3,707	7,415	8,809	7,210	6,080
80	8,137	3,895	5,394	7,477	9,526	7,538	6,098	5,120	7,848	8,882	7,823	7,097
90	9,081	5,223	8,959	10,245	10,908	10,134	7,151	6,595	8,634	9,149	8,284	8,019
100	9,601	10,008	13,153	14,157	16,843	15,142	12,176	9,433	9,735	9,345	8,549	9,595
Mean	6,683	3,497	4,434	5,313	6,322	5,774	4,186	3,772	7,164	8,073	6,589	6,080

## Sacramento River flow at Rio Vista (cfs)

Percentile	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
0	2,953	4,089	6,740	6,042	8,592	7,418	5,496	4,319	1,994	2,905	1,675	2,941
10	3,705	6,207	8,441	9,927	10,978	9,634	7,016	5,990	5,807	5,515	3,226	2,957
20	4,408	7,857	9,545	10,768	12,944	11,705	8,982	7,677	6,092	6,265	4,197	3,621
30	5,117	8,492	11,261	12,575	16,117	16,549	9,852	7,924	6,481	7,766	4,642	3,992
40	5,926	9,475	12,520	14,429	23,651	20,796	10,464	9,184	6,771	9,072	5,387	4,308
50	6,535	12,227	12,891	20,909	28,856	24,838	13,056	10,759	7,197	11,094	5,884	4,635
60	6,960	13,337	14,281	24,113	39,701	27,217	15,832	11,813	7,589	11,178	6,376	5,068
70	8,623	14,780	21,605	31,283	49,850	33,893	18,356	15,423	8,705	11,515	7,521	5,636
80	11,520	17,656	39,472	53,373	63,284	48,640	35,917	24,958	11,103	11,690	8,856	7,196
90	13,457	26,189	60,815	90,087	102,991	79,036	56,006	35,056	20,983	12,792	10,253	9,773
100	33,546	59,943	119,018	171,272	182,736	188,332	103,086	50,877	43,121	13,014	11,291	14,422
Mean	8,152	14,567	24,121	34,262	43,101	35,247	22,163	15,764	10,077	9,535	6,269	5,674

## QWEST Flow with initial exports (cfs)

Percentile	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
0	(4,063)	(6,213)	(7,116)	(6,374)	(4,446)	(3,380)	399	(424)	(5,589)	(4,023)	(3,950)	(3,113)
10	(1,864)	(5,670)	(6,034)	(5,310)	(2,794)	(1,987)	578	(98)	319	(3,591)	(3,475)	(1,612)
20	(1,528)	(5,019)	(5,306)	(4,581)	(1,707)	(1,154)	853	69	507	(3,549)	(2,471)	(1,195)
30	(1,409)	(4,388)	(4,674)	(4,291)	(1,160)	(861)	1,316	160	574	(3,367)	(1,657)	(841)
40	(1,093)	(3,728)	(4,266)	(3,460)	303	(542)	1,487	377	611	(3,024)	(710)	(725)
50	(835)	(3,364)	(3,821)	(2,509)	1,914	369	1,858	773	706	(2,723)	(207)	(578)
60	(446)	(2,986)	(3,255)	(969)	4,225	2,114	2,231	987	824	(1,759)	150	(440)
70	(6)	(2,672)	(2,125)	1,041	7,201	3,977	2,616	1,317	1,052	(380)	480	(371)
80	165	(2,422)	1,605	6,408	11,209	10,138	5,595	2,132	1,629	465	1,012	(261)
90	1,674	(821)	4,215	13,748	14,314	14,661	10,832	4,836	2,730	2,642	1,501	240
100	15,066	23,073	39,958	37,172	59,433	74,009	40,633	33,442	31,816	19,443	2,475	11,767
Mean	(277)	(2,759)	(1,341)	1,715	5,708	5,204	4,426	2,407	1,607	(1,304)	(590)	(493)

Table A3-18. Continued

## Export reductions to meet QWEST standards (cfs)

Percentile	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0
80	0	0	0	0	0	0	0	0	0	0	0	0
90	0	0	0	0	0	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0	0	0	0	0	0
Mean	0	0	0	0	0	0	0	0	0	0	0	0

## Delta outflow at Collinsville (cfs)

Percentile	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
0	2,991	3,537	4,531	4,505	7,799	6,898	5,840	4,506	3,997	4,000	3,414	3,007
10	3,348	4,504	5,232	5,788	9,614	8,555	7,818	6,036	6,117	4,994	3,416	3,008
20	4,002	5,044	5,684	6,289	11,400	10,947	10,252	7,578	6,703	6,699	4,384	3,153
30	4,196	5,293	6,355	7,862	15,513	15,073	10,545	7,579	6,895	7,158	5,032	3,398
40	4,678	5,647	6,833	10,476	22,775	18,364	11,260	10,011	7,578	7,230	5,302	3,632
50	5,023	6,383	7,187	16,808	27,301	24,849	15,372	11,258	7,580	7,826	5,740	3,817
60	5,354	7,859	9,483	22,569	44,691	29,666	18,031	12,903	8,328	8,001	5,741	4,143
70	6,403	10,957	17,107	30,748	59,049	41,729	20,862	17,576	9,270	8,002	5,742	4,359
80	9,792	14,090	40,647	72,356	70,178	59,498	40,512	26,201	11,632	8,004	6,042	5,518
90	15,199	22,851	68,851	102,271	116,586	93,737	63,869	39,710	16,998	9,381	6,722	8,323
100	37,421	83,001	159,166	205,170	219,767	262,789	142,618	83,413	74,553	32,036	9,719	26,031
Mean	7,758	11,740	22,764	36,125	48,912	40,457	26,478	17,951	11,307	7,812	5,388	4,998

## Delta outflow at Chippis Island (cfs)

Percentile	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
0	695	1,236	2,221	2,195	5,458	4,566	5,921	4,613	4,114	4,117	3,542	3,143
10	1,049	2,194	2,915	3,466	7,257	6,207	7,861	6,113	6,193	5,092	3,544	3,144
20	1,697	2,729	3,363	3,963	9,026	8,577	10,247	7,625	6,767	6,763	4,494	3,287
30	1,889	2,976	4,028	5,521	13,101	12,665	10,534	7,626	6,956	7,213	5,129	3,527
40	2,366	3,326	4,501	8,111	20,295	15,925	11,235	10,011	7,625	7,284	5,394	3,756
50	2,708	4,056	4,852	14,384	24,779	22,350	15,267	11,233	7,627	7,868	5,823	3,938
60	3,036	5,518	7,127	20,091	42,007	27,122	17,874	12,846	8,361	8,040	5,824	4,257
70	4,075	8,587	14,680	28,194	56,232	39,073	20,650	17,428	9,284	8,041	5,825	4,469
80	7,433	11,691	38,001	69,415	67,257	56,677	39,917	25,885	11,600	8,043	6,119	5,605
90	12,790	20,370	65,943	99,052	113,234	90,597	62,819	39,131	16,862	9,393	6,786	8,356
100	34,805	79,961	155,418	200,994	215,455	258,077	140,032	81,981	73,294	31,606	9,724	25,718
Mean	5,417	9,363	20,284	33,521	46,190	37,813	26,156	17,796	11,282	7,854	5,478	5,095

## Required Delta outflow (cfs)

Percentile	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
0	2,992	3,537	4,505	4,505	5,960	6,356	5,841	4,505	4,000	4,001	3,415	3,008
10	3,347	4,504	4,532	5,713	7,670	7,068	7,579	6,036	6,117	4,993	3,415	3,008
20	4,001	4,931	4,885	5,980	8,175	8,765	8,641	7,579	6,703	6,698	4,384	3,074
30	4,001	5,194	5,444	6,001	9,456	9,971	9,569	7,579	6,896	7,157	5,033	3,352
40	4,306	5,464	5,771	6,001	11,276	10,891	10,265	8,034	7,579	7,230	5,302	3,622
50	4,519	5,647	6,139	6,001	11,400	11,400	10,545	9,454	7,579	7,825	5,741	3,791
60	4,904	6,062	6,355	6,001	11,400	12,241	11,259	10,268	8,282	8,002	5,741	4,037
70	5,091	6,312	6,591	6,294	14,676	15,373	12,161	11,259	8,889	8,002	5,741	4,190
80	5,354	6,434	6,832	6,891	19,623	16,464	13,890	14,465	9,994	8,002	5,966	5,436
90	5,615	6,804	7,163	7,210	22,072	19,282	15,372	17,320	12,026	9,358	6,577	5,781
100	7,995	8,016	7,580	8,542	28,559	27,430	22,321	28,043	21,174	9,549	7,521	6,333
Mean	4,625	5,715	6,003	6,275	13,148	12,825	11,353	10,645	8,827	7,442	5,331	4,103

## Montezuma Slough flow (cfs)

Percentile	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
0	2,296	2,301	2,310	2,310	2,341	2,332	(81)	(107)	(117)	(117)	(128)	(136)
10	2,299	2,310	2,317	2,322	2,357	2,348	(43)	(77)	(76)	(98)	(128)	(136)
20	2,305	2,315	2,321	2,326	2,374	2,370	5	(47)	(64)	(64)	(110)	(134)
30	2,307	2,317	2,327	2,341	2,412	2,408	11	(47)	(61)	(55)	(97)	(129)
40	2,312	2,321	2,332	2,365	2,480	2,439	25	0	(47)	(54)	(92)	(124)
50	2,315	2,327	2,335	2,424	2,522	2,499	105	25	(47)	(42)	(83)	(121)
60	2,318	2,341	2,356	2,478	2,684	2,544	157	57	(33)	(39)	(83)	(114)
70	2,328	2,370	2,427	2,554	2,817	2,656	212	148	(14)	(39)	(83)	(110)
80	2,359	2,399	2,646	2,941	2,921	2,821	595	316	32	(39)	(77)	(87)
90	2,409	2,481	2,908	3,219	3,352	3,140	1,050	579	136	(12)	(64)	(33)
100	2,616	3,040	3,748	4,176	4,312	4,712	2,586	1,432	1,259	430	(5)	313
Mean	2,340	2,377	2,480	2,604	2,723	2,644	321	155	25	(43)	(90)	(98)

Table A3-18. Continued

## Net change in exports (cfs)

Percentile	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
0	(2)	(2)	(2)	(2)	(1)	(1)	(1)	(544)	(3)	(1)	(1)	(1)
10	0	(2)	(1)	(1)	(0)	(0)	0	(1)	(1)	(1)	(1)	0
20	0	(1)	0	0	0	0	0	(1)	(1)	0	(1)	0
30	0	(1)	0	461	1	1	1	0	(1)	0	(1)	0
40	1	0	1	1,771	1,679	1	322	0	(1)	0	0	0
50	1	0	663	2,427	2,118	2,724	584	1	(0)	0	0	1
60	1	1,547	2,792	2,690	2,738	3,844	648	380	0	1	0	1
70	894	3,959	3,148	2,934	3,443	5,612	920	527	0	1	0	1
80	3,515	3,959	3,236	3,997	6,058	6,543	2,866	1,276	0	1	1	1
90	3,873	3,959	3,889	7,182	6,726	7,735	4,998	3,004	40	1	1	2,761
100	7,838	9,601	9,258	11,282	10,356	9,552	8,306	8,627	7,221	7,104	3,978	6,512
Mean	1,183	1,769	1,849	2,699	2,881	3,086	1,395	915	484	128	57	451

## Export limits (cfs)

Percentile	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
0	5,697	5,051	6,904	6,130	6,075	4,250	3,212	2,782	3,191	6,696	4,635	5,495
10	6,791	6,948	8,718	9,146	6,630	5,073	3,941	3,451	5,520	9,986	6,952	5,698
20	8,076	8,268	9,549	11,101	7,754	6,095	4,568	3,856	5,615	11,313	8,486	7,225
30	8,845	8,975	11,012	11,681	9,746	8,217	5,037	4,310	5,869	12,531	8,939	7,610
40	9,462	9,555	11,869	13,474	11,258	10,191	5,701	5,362	6,085	13,625	9,636	7,730
50	10,095	11,604	12,309	18,120	15,028	12,287	6,552	5,878	6,624	14,885	9,804	8,059
60	10,793	12,774	13,050	20,989	20,184	13,992	7,380	6,581	6,841	14,934	10,180	8,423
70	12,371	14,219	19,023	26,125	24,401	17,475	8,921	7,882	7,036	15,296	10,976	9,092
80	14,542	15,592	32,504	51,223	27,435	23,524	12,799	9,437	8,550	15,367	12,576	11,736
90	17,753	22,475	51,845	68,989	43,998	36,367	16,500	12,708	11,317	16,360	13,404	14,088
100	29,881	57,610	105,728	133,645	79,382	92,174	38,212	29,841	30,225	28,830	15,044	23,568
Mean	11,662	13,820	21,256	29,141	20,694	16,863	8,958	7,503	7,838	13,790	10,050	9,229

## Revised QWEST flow (cfs)

Percentile	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
0	(7,936)	(9,916)	(8,246)	(7,715)	(7,261)	(5,288)	(8)	(529)	(5,589)	(4,024)	(3,949)	(5,416)
10	(4,225)	(8,252)	(7,562)	(6,912)	(3,550)	(3,702)	520	(271)	222	(3,592)	(3,475)	(3,368)
20	(2,863)	(7,719)	(6,754)	(6,376)	(2,764)	(3,192)	834	(39)	472	(3,550)	(2,472)	(1,456)
30	(1,994)	(7,237)	(5,960)	(5,461)	(2,265)	(1,927)	964	100	565	(3,368)	(1,656)	(1,001)
40	(1,527)	(6,017)	(5,538)	(4,804)	(1,463)	(1,529)	1,156	219	582	(3,026)	(939)	(786)
50	(1,355)	(4,651)	(4,484)	(4,371)	(723)	(862)	1,384	335	692	(2,722)	(210)	(647)
60	(1,088)	(3,480)	(3,822)	(3,806)	1,268	(551)	1,489	635	766	(1,759)	104	(475)
70	(689)	(2,972)	(3,252)	(2,721)	3,332	97	1,763	774	957	(380)	464	(403)
80	(183)	(2,618)	(2,124)	2,376	5,986	3,474	2,648	1,215	1,158	465	970	(293)
90	161	(1,059)	884	11,748	10,156	10,631	5,995	3,105	2,507	2,630	1,482	231
100	7,228	13,472	30,700	28,779	49,561	64,457	33,256	24,815	24,595	12,339	2,031	5,255
Mean	(1,460)	(4,528)	(3,190)	(984)	2,827	2,118	3,031	1,492	1,123	(1,431)	(646)	(944)

## Revised Delta outflow (cfs)

Percentile	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
0	2,992	3,537	4,532	4,505	7,800	6,897	5,841	4,505	4,000	4,001	3,415	3,008
10	3,347	4,504	5,210	5,788	9,282	8,555	7,579	6,036	6,118	4,993	3,415	3,008
20	4,001	5,044	5,565	6,171	11,400	10,946	10,013	7,579	6,704	6,698	4,384	3,152
30	4,198	5,295	6,172	6,909	13,465	15,072	10,399	7,579	6,896	7,157	5,033	3,397
40	4,675	5,647	6,416	7,908	20,813	18,364	11,259	10,012	7,579	7,230	5,302	3,632
50	5,023	6,070	6,792	14,082	25,901	22,222	14,490	11,235	7,579	7,825	5,741	3,818
60	5,354	6,383	7,163	18,654	39,356	25,424	17,354	12,376	8,327	8,002	5,741	4,142
70	5,824	6,804	13,979	26,787	51,792	34,899	20,075	16,226	9,271	8,002	5,741	4,358
80	6,520	8,382	36,150	69,429	64,898	52,834	36,220	24,925	11,632	8,002	5,966	5,517
90	10,947	18,892	65,872	95,087	114,021	89,707	60,896	36,706	16,958	9,373	6,577	6,212
100	29,583	73,400	149,908	195,370	218,088	253,237	136,325	74,786	67,332	24,932	7,521	19,519
Mean	6,575	9,971	20,915	33,426	46,031	37,371	25,083	17,036	10,824	7,684	5,331	4,547

## Available water for diversion (cfs)

Percentile	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	3,620	528	0	0	0	0	0	0	0
60	0	0	0	6,489	5,684	0	0	0	0	0	0	0
70	0	0	4,523	10,660	9,901	2,975	0	0	0	0	0	0
80	0	692	11,748	17,376	12,935	9,024	634	0	0	0	0	0
90	2,853	7,561	15,884	26,748	23,407	18,540	5,054	948	0	0	0	0
100	14,981	28,472	45,700	43,779	52,147	77,674	23,312	14,941	15,325	13,930	0	8,668
Mean	909	1,897	4,980	8,620	8,015	5,806	1,506	630	320	199	0	233

Table A3-18. Continued

## Delta storage diversion (cfs)

Percentile	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0
80	0	0	0	0	0	0	0	0	0	0	0	0
90	0	0	0	0	0	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0	0	0	0	0	0
Mean	0	0	0	0	0	0	0	0	0	0	0	0

## Delta storage (TAF)

Percentile	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0
80	0	0	0	0	0	0	0	0	0	0	0	0
90	0	0	0	0	0	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0	0	0	0	0	0
Mean	0	0	0	0	0	0	0	0	0	0	0	0

## Delta storage discharge for export (cfs)

Percentile	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0
80	0	0	0	0	0	0	0	0	0	0	0	0
90	0	0	0	0	0	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0	0	0	0	0	0
Mean	0	0	0	0	0	0	0	0	0	0	0	0

## Delta storage discharge for outflow (cfs)

Percentile	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0
80	0	0	0	0	0	0	0	0	0	0	0	0
90	0	0	0	0	0	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0	0	0	0	0	0
Mean	0	0	0	0	0	0	0	0	0	0	0	0

## Final CVP Tracy and SWP Banks exports (cfs)

Percentile	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
0	4,288	3,326	5,072	4,844	4,073	3,147	2,791	2,395	1,076	1,818	537	3,271
10	5,125	5,385	7,368	8,686	6,384	4,525	3,571	3,114	5,464	3,427	3,448	3,592
20	6,854	6,640	7,842	10,935	7,285	6,095	3,789	3,538	5,568	6,446	4,730	5,890
30	7,992	7,372	9,922	11,575	9,184	7,956	4,189	3,928	5,766	7,379	5,083	6,051
40	8,500	8,383	10,868	13,474	11,137	10,191	5,623	4,859	5,923	8,865	5,864	6,359
50	9,055	10,670	11,667	14,500	14,500	11,701	6,552	5,685	6,313	10,505	6,324	6,518
60	9,710	12,488	13,050	14,500	14,500	13,992	7,380	6,754	6,543	11,287	7,174	6,685
70	11,921	14,219	14,500	14,500	14,500	14,500	8,921	7,487	7,026	11,288	7,966	7,409
80	14,542	14,900	14,500	14,500	14,500	14,500	10,960	8,829	8,448	11,288	9,615	10,062
90	14,900	14,900	14,500	14,500	14,500	14,500	11,760	11,760	11,317	11,288	11,287	14,004
100	14,900	14,900	14,500	14,500	14,500	14,500	14,900	14,900	14,900	14,900	14,155	14,900
Mean	9,968	10,424	11,479	12,759	11,671	10,752	7,249	6,614	7,326	9,026	6,889	7,552

Table A3-18. Continued

## Final QWEST flow (cfs)

Percentile	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
0	(7,936)	(9,916)	(8,246)	(7,715)	(7,261)	(5,288)	(8)	(529)	(5,589)	(4,024)	(3,949)	(5,416)
10	(4,225)	(8,252)	(7,562)	(6,912)	(3,550)	(3,702)	520	(271)	222	(3,592)	(3,475)	(3,368)
20	(2,863)	(7,719)	(6,754)	(6,376)	(2,764)	(3,192)	834	(39)	472	(3,550)	(2,472)	(1,456)
30	(1,994)	(7,237)	(5,960)	(5,461)	(2,265)	(1,927)	964	100	565	(3,368)	(1,656)	(1,001)
40	(1,527)	(6,017)	(5,538)	(4,804)	(1,463)	(1,529)	1,156	219	582	(3,026)	(939)	(786)
50	(1,355)	(4,651)	(4,484)	(4,371)	(723)	(862)	1,384	335	692	(2,722)	(210)	(647)
60	(1,088)	(3,480)	(3,822)	(3,806)	1,268	(551)	1,489	635	766	(1,759)	104	(475)
70	(689)	(2,972)	(3,252)	(2,721)	3,332	97	1,763	774	957	(380)	464	(403)
80	(183)	(2,618)	(2,124)	2,376	5,986	3,474	2,648	1,215	1,158	465	970	(293)
90	161	(1,059)	884	11,748	10,156	10,631	5,995	3,105	2,507	2,630	1,482	231
100	7,228	13,472	30,700	28,779	49,561	64,457	33,256	24,815	24,595	12,339	2,031	5,255
Mean	(1,460)	(4,528)	(3,190)	(984)	2,827	2,118	3,031	1,492	1,123	(1,431)	(646)	(944)

## Final Delta outflow (cfs)

Percentile	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
0	2,992	3,537	4,532	4,505	7,800	6,897	5,841	4,505	4,000	4,001	3,415	3,008
10	3,347	4,504	5,210	5,788	9,282	8,555	7,579	6,036	6,118	4,993	3,415	3,008
20	4,001	5,044	5,565	6,171	11,400	10,946	10,013	7,579	6,704	6,698	4,884	3,152
30	4,198	5,295	6,172	6,909	13,465	15,072	10,399	7,579	6,896	7,157	5,033	3,397
40	4,675	5,647	6,416	7,908	20,813	18,364	11,259	10,012	7,579	7,230	5,302	3,632
50	5,023	6,070	6,792	14,082	25,901	22,222	14,490	11,235	7,579	7,825	5,741	3,818
60	5,354	6,383	7,163	18,654	39,356	25,424	17,354	12,376	8,327	8,002	5,741	4,142
70	5,824	6,804	13,979	26,787	51,792	34,899	20,075	16,226	9,271	8,002	5,741	4,358
80	6,520	8,382	36,150	69,429	64,898	52,834	36,220	24,925	11,632	8,002	5,966	5,517
90	10,947	18,892	65,872	95,087	114,021	89,707	60,896	36,706	16,958	9,373	6,577	6,212
100	29,583	73,400	149,908	195,370	218,088	253,237	136,325	74,786	67,332	24,932	7,521	19,519
Mean	6,575	9,971	20,915	33,426	46,031	37,371	25,083	17,036	10,824	7,684	5,331	4,547

## Threemile Slough flow (cfs)

Percentile	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
0	634	1,104	2,237	1,892	1,881	1,671	950	758	(283)	(833)	(246)	605
10	868	1,952	2,947	3,647	2,925	2,282	1,284	1,312	669	445	484	618
20	1,109	2,689	3,424	3,883	3,487	3,036	1,604	1,734	1,156	1,148	645	922
30	1,457	2,908	4,274	4,825	4,520	4,205	1,850	1,787	1,232	1,871	955	1,056
40	1,735	3,381	4,666	5,596	5,930	5,045	2,162	2,020	1,376	2,445	1,144	1,167
50	1,965	4,585	4,981	6,054	7,354	6,343	2,556	2,307	1,420	3,237	1,432	1,279
60	2,112	5,290	5,532	7,069	8,741	6,786	3,176	2,668	1,472	3,719	1,622	1,413
70	2,815	5,951	6,675	8,324	10,784	9,061	3,726	3,129	1,704	3,733	2,213	1,681
80	3,704	6,841	9,187	11,749	14,281	10,413	6,662	4,528	2,102	3,822	2,936	2,094
90	4,200	7,824	13,176	16,628	16,474	15,092	10,582	6,971	3,069	3,915	3,479	3,295
100	10,307	14,090	19,239	32,510	31,702	23,701	15,506	9,791	8,326	3,990	3,790	4,481
Mean	2,358	4,815	6,623	8,295	9,161	7,553	4,216	3,207	1,997	2,671	1,664	1,619

## Old River diversion flow (cfs)

Percentile	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
0	73	1,126	1,053	959	959	1,166	100	100	1,343	1,018	959	959
10	75	1,336	1,228	1,178	1,401	1,345	100	100	1,581	1,252	1,008	1,051
20	75	1,519	1,392	1,475	1,881	1,548	122	122	1,596	1,422	1,030	1,077
30	78	1,643	1,501	1,562	1,935	1,881	182	138	1,603	1,507	1,055	1,122
40	85	1,732	1,661	1,765	2,199	1,881	199	194	1,633	1,510	1,140	1,157
50	91	1,885	1,800	1,986	2,531	1,885	199	197	1,881	1,517	1,378	1,196
60	99	1,947	1,887	2,225	2,706	2,530	267	261	2,193	1,537	1,507	1,285
70	100	2,033	2,015	2,387	3,355	2,530	267	264	2,530	1,609	1,644	1,444
80	138	2,117	2,320	2,959	3,923	2,896	310	305	2,534	1,697	1,688	1,621
90	198	2,260	2,667	3,719	5,230	5,240	310	305	4,348	1,761	1,794	2,190
100	10,012	7,039	11,400	13,638	20,705	25,321	17,802	16,135	17,698	10,617	4,030	6,404
Mean	352	1,968	2,134	2,561	3,314	3,259	1,011	876	2,597	1,774	1,398	1,484

## Antioch flow (cfs)

Percentile	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
0	(833)	(2,878)	(2,037)	(1,716)	408	1,317	1,638	1,131	1,210	(33)	(309)	(935)
10	(252)	(2,174)	(1,503)	(1,315)	1,152	1,541	2,276	1,514	1,797	124	11	(20)
20	456	(1,728)	(1,188)	(762)	1,599	2,326	2,706	1,784	1,835	291	322	540
30	535	(1,126)	(1,063)	(635)	2,733	2,796	2,959	1,902	2,033	386	629	622
40	560	(741)	(579)	(339)	3,684	3,390	3,168	2,405	2,158	641	775	632
50	603	(278)	(399)	247	5,355	3,775	4,111	2,992	2,231	907	961	652
60	705	(118)	(164)	1,931	10,770	4,819	4,524	3,563	2,361	966	1,323	663
70	800	(19)	113	4,844	11,837	6,583	5,490	4,305	2,764	1,241	1,475	678
80	913	431	6,866	17,091	18,900	13,694	10,051	5,889	3,374	1,893	1,701	755
90	1,486	1,136	15,268	26,705	31,112	24,566	16,525	9,430	4,609	3,156	1,807	852
100	10,204	23,223	48,823	56,170	66,466	88,158	46,864	28,734	26,939	11,506	2,163	6,970
Mean	898	287	3,433	7,311	11,988	9,671	7,247	4,699	3,120	1,240	1,017	674

Table A3-19a. DeltaSOS—Simulated DW Operations  
for Alternative 1 Cumulative Conditions: DW Diversions to Storage (cfs)

Water Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total (TAF)
1922	0	0	0	0	2,790	0	0	0	0	0	0	0	263
1923	677	692	2,562	15	0	0	0	0	0	0	0	0	238
1924	0	0	0	0	0	4,000	0	0	0	0	0	0	0
1925	0	0	0	0	0	3,943	0	0	0	0	0	0	241
1926	0	517	0	3,871	31	49	76	0	0	0	0	0	201
1927	0	4,000	0	28	0	0	0	0	0	0	0	0	274
1928	0	0	0	0	0	0	0	0	0	0	0	0	0
1929	0	0	0	0	1,406	0	0	0	0	0	0	0	85
1930	0	0	0	0	0	0	0	0	0	0	0	0	0
1931	0	0	0	0	0	0	0	0	0	0	0	0	0
1932	0	0	0	0	0	0	0	0	0	0	0	0	0
1933	0	0	0	0	0	0	0	0	0	0	0	0	0
1934	0	0	0	0	0	0	0	0	0	0	0	0	0
1935	0	0	0	0	0	0	0	0	0	0	0	0	0
1936	0	0	0	0	0	0	0	0	0	0	0	0	0
1937	0	0	0	0	0	0	0	0	0	0	0	0	0
1938	0	4,000	13	15	0	307	0	0	0	0	0	0	237
1939	0	0	0	0	0	4,000	31	49	76	99	118	0	235
1940	0	0	0	0	0	0	0	0	0	0	0	0	0
1941	0	0	0	0	0	0	0	0	0	0	0	0	0
1942	1,815	675	1,440	15	31	49	76	99	126	0	0	0	242
1943	2,847	1,083	13	0	0	0	0	0	0	0	0	0	265
1944	0	0	0	0	0	0	0	0	0	0	0	0	0
1945	0	0	0	0	0	0	0	0	0	0	0	0	0
1946	0	0	0	0	0	0	0	0	0	0	0	0	0
1947	0	0	0	0	0	0	0	0	0	0	0	0	0
1948	0	0	0	0	0	0	0	0	0	0	0	0	0
1949	0	0	0	0	0	0	0	0	0	0	0	0	0
1950	0	0	0	0	0	0	0	0	0	0	0	0	0
1951	0	4,000	13	15	31	49	76	99	118	0	0	0	21
1952	0	0	0	0	0	0	0	0	0	0	0	0	244
1953	2,853	0	355	15	0	0	0	0	0	0	0	0	303
1954	0	2,926	0	3,871	15	31	49	76	99	118	0	0	233
1955	0	0	0	0	0	0	0	0	0	0	0	0	0
1956	0	0	0	0	0	0	0	0	0	0	0	0	0
1957	2,486	0	3,871	0	0	0	0	0	0	0	0	0	249
1958	0	0	0	0	0	0	0	0	0	0	0	0	0
1959	3,178	0	0	0	0	0	0	0	0	0	0	0	0
1960	0	0	0	0	0	0	0	0	0	0	0	0	0
1961	0	0	0	0	0	0	0	0	0	0	0	0	0
1962	0	0	0	0	0	0	0	0	0	0	0	0	0
1963	3,871	0	37	0	0	0	0	0	0	0	0	0	0
1964	0	4,000	0	3,227	0	0	0	0	0	0	0	0	0
1965	0	4,000	15	0	0	0	0	0	0	0	0	0	0
1966	0	0	0	28	0	0	0	0	0	0	0	0	0
1967	0	0	0	0	0	0	0	0	0	0	0	0	0
1968	3,106	0	0	0	0	0	0	0	0	0	0	0	0
1969	0	0	0	0	0	0	0	0	0	0	0	0	0
1970	1,501	25	13	15	31	49	76	99	118	0	0	0	45
1971	0	2,459	0	1,504	15	0	0	0	0	0	0	0	0
1972	0	0	1,260	0	0	0	0	0	0	0	0	0	0
1973	0	0	2,082	15	31	49	0	0	0	0	0	0	0
1974	0	4,000	13	0	0	0	0	0	0	0	0	0	0
1975	1,388	409	0	0	0	0	0	0	0	0	0	0	0
1976	1,768	0	0	0	0	0	0	0	0	0	0	0	0
1977	0	0	0	0	0	0	0	0	0	0	0	0	0
1978	0	0	0	0	0	0	0	0	0	0	0	0	0
1979	0	0	0	0	0	0	0	0	0	0	0	0	0
1980	0	0	0	0	0	0	0	0	0	0	0	0	0
1981	0	0	0	0	0	0	0	0	0	0	0	0	0
1982	0	0	0	0	0	0	0	0	0	0	0	0	0
1983	161	25	13	15	31	49	76	99	118	0	0	0	0
1984	53	0	0	0	0	0	0	0	0	0	0	0	0
1985	0	4,000	13	0	0	0	0	0	0	0	0	0	0
1986	0	0	0	0	0	0	0	0	0	0	0	0	0
1987	0	0	0	0	0	0	0	0	0	0	0	0	0
1988	0	0	0	0	0	0	0	0	0	0	0	0	0
1989	0	0	0	0	0	0	0	0	0	0	0	0	0
1990	0	0	0	0	0	0	0	0	0	0	0	0	0
1991	0	0	0	0	0	0	0	0	0	0	0	0	0
Average	415	613	617	702	443	173	35	36	8	2	0	123	191

Table A3-19b. DeltaSOS-Simulated DW Operations  
for Alternative 1 Cumulative Conditions: DW Discharge to Export Wheeling (cfs)

Water Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total (TAF)
1922	0	0	0	0	0	0	0	0	3,627	0	0	0	219
1923	0	0	0	0	0	0	0	0	0	0	0	0	241
1924	0	0	0	0	0	0	0	0	0	0	0	0	190
1925	0	0	0	0	0	0	0	0	0	0	0	0	154
1926	0	0	0	0	0	0	0	0	0	0	0	0	243
1927	0	0	0	0	0	0	0	0	0	0	0	0	208
1928	0	0	0	0	0	0	0	0	0	0	0	0	0
1929	0	0	0	0	0	0	0	0	0	0	0	0	0
1930	0	0	0	0	0	0	0	0	0	0	0	0	0
1931	0	0	0	0	0	0	0	0	0	0	0	0	0
1932	0	0	0	0	0	0	0	0	0	0	0	0	0
1933	0	0	0	0	0	0	0	0	0	0	0	0	0
1934	0	0	0	0	0	0	0	0	0	0	0	0	0
1935	0	0	0	0	0	0	0	0	0	0	0	0	0
1936	0	0	0	0	0	0	0	0	0	0	0	0	0
1937	0	0	0	0	0	0	0	0	0	0	0	0	0
1938	0	0	0	0	0	0	0	0	0	0	0	0	0
1939	622	0	0	0	0	0	0	0	0	0	0	0	0
1940	0	0	0	0	0	0	0	0	0	0	0	0	0
1941	0	0	0	0	0	0	0	0	0	0	0	0	0
1942	0	0	0	0	0	0	0	0	0	0	0	0	0
1943	0	0	0	0	0	0	0	0	0	0	0	0	0
1944	0	0	0	0	0	0	0	0	0	0	0	0	0
1945	0	0	0	0	0	0	0	0	0	0	0	0	0
1946	0	0	0	0	0	0	0	0	0	0	0	0	0
1947	0	0	0	0	0	0	0	0	0	0	0	0	0
1948	0	0	0	0	0	0	0	0	0	0	0	0	0
1949	0	0	0	0	0	0	0	0	0	0	0	0	0
1950	0	0	0	0	0	0	0	0	0	0	0	0	0
1951	0	0	0	0	0	0	0	0	0	0	0	0	0
1952	0	0	0	0	0	0	0	0	0	0	0	0	0
1953	0	0	0	0	0	0	0	0	0	0	0	0	0
1954	0	0	0	0	0	0	0	0	0	0	0	0	0
1955	0	0	0	0	0	0	0	0	0	0	0	0	0
1956	0	0	0	0	0	0	0	0	0	0	0	0	0
1957	2,543	0	0	0	0	0	0	0	0	0	0	0	0
1958	0	0	0	0	0	0	0	0	0	0	0	0	0
1959	0	0	0	0	0	0	0	0	0	0	0	0	0
1960	0	0	0	0	0	0	0	0	0	0	0	0	0
1961	0	0	0	0	0	0	0	0	0	0	0	0	0
1962	0	0	0	0	0	0	0	0	0	0	0	0	0
1963	0	0	0	0	0	0	0	0	0	0	0	0	0
1964	0	0	0	0	0	0	0	0	0	0	0	0	0
1965	0	0	0	0	0	0	0	0	0	0	0	0	0
1966	0	0	0	0	0	0	0	0	0	0	0	0	0
1967	0	0	0	0	0	0	0	0	0	0	0	0	0
1968	0	0	0	0	0	0	0	0	0	0	0	0	0
1969	0	0	0	0	0	0	0	0	0	0	0	0	0
1970	0	0	0	0	0	0	0	0	0	0	0	0	0
1971	0	0	0	0	0	0	0	0	0	0	0	0	0
1972	0	0	0	0	0	0	0	0	0	0	0	0	0
1973	0	0	0	0	0	0	0	0	0	0	0	0	0
1974	0	0	0	0	0	0	0	0	0	0	0	0	0
1975	2,126	0	0	0	0	0	0	0	0	0	0	0	0
1976	0	0	0	0	0	0	0	0	0	0	0	0	0
1977	0	0	0	0	0	0	0	0	0	0	0	0	0
1978	0	0	0	0	0	0	0	0	0	0	0	0	0
1979	0	0	0	0	0	0	0	0	0	0	0	0	0
1980	0	0	0	0	0	0	0	0	0	0	0	0	0
1981	0	0	0	0	0	0	0	0	0	0	0	0	0
1982	0	0	0	0	0	0	0	0	0	0	0	0	0
1983	0	0	0	0	0	0	0	0	0	0	0	0	0
1984	0	0	0	0	0	0	0	0	0	0	0	0	0
1985	0	0	0	0	0	0	0	0	0	0	0	0	0
1986	0	0	0	0	0	0	0	0	0	0	0	0	0
1987	0	0	0	0	0	0	0	0	0	0	0	0	0
1988	0	0	0	0	0	0	0	0	0	0	0	0	0
1989	0	0	0	0	0	0	0	0	0	0	0	0	0
1990	0	0	0	0	0	0	0	0	0	0	0	0	0
1991	0	0	0	0	0	0	0	0	0	0	0	0	0
Average	0	45	171	0	169	71	140	236	130	1,759	29	0	166

Table A3-19c. DeltaSOS-Simulated DW Operations  
for Alternative 1 Cumulative Conditions: DW End-of-Month Storage (TAF)

Water Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1922	0	0	0	0	155	152	147	238	231	0	0	0
1923	42	81	0	238	14	11	7	1	0	0	0	0
1924	0	0	0	0	0	0	0	0	0	0	0	0
1925	0	0	0	0	222	219	215	209	192	0	0	0
1926	0	31	0	0	186	183	178	144	137	0	0	0
1927	0	238	237	238	236	238	238	232	193	0	0	0
1928	0	0	0	0	0	0	0	0	176	0	0	0
1929	0	0	0	0	86	85	82	12	0	0	0	0
1930	0	0	0	0	0	0	0	0	0	0	0	0
1931	0	0	0	0	0	0	0	0	0	0	0	0
1932	0	0	0	0	0	0	0	0	0	0	0	0
1933	0	0	0	0	0	0	0	0	0	0	0	0
1934	0	0	0	0	0	0	0	0	0	0	0	0
1935	0	0	0	0	238	236	233	232	77	70	0	0
1936	0	0	0	0	238	238	154	149	143	101	0	0
1937	0	0	0	0	0	222	238	234	227	52	0	0
1938	0	238	238	238	238	238	238	238	238	238	0	0
1939	207	168	167	165	162	171	177	81	74	0	0	0
1940	0	0	0	0	238	238	238	238	238	231	0	0
1941	0	112	150	238	238	235	238	232	225	0	0	0
1942	175	238	0	0	0	0	0	0	0	0	0	0
1943	0	0	0	0	0	0	0	0	0	0	0	0
1944	0	0	0	0	0	0	0	0	0	0	0	0
1945	0	0	0	0	222	219	215	198	191	0	0	0
1946	0	0	0	0	22	20	17	12	0	0	0	0
1947	0	0	0	0	0	0	0	0	0	0	0	0
1948	0	0	0	0	0	0	0	0	0	0	0	0
1949	0	0	0	0	0	0	0	0	0	0	0	0
1950	0	0	0	0	22	20	17	11	7	0	0	0
1951	0	238	238	238	235	231	224	182	0	0	0	0
1952	0	238	238	238	238	238	238	238	238	46	0	0
1953	218	217	0	238	215	212	207	194	0	0	0	0
1954	0	174	0	238	238	238	238	198	182	0	0	0
1955	0	0	0	238	236	233	229	223	216	0	0	0
1956	0	0	0	238	238	238	234	238	231	0	0	0
1957	153	0	0	0	29	209	153	147	132	0	0	0
1958	0	0	0	238	238	238	238	238	238	0	0	0
1959	206	204	(0)	0	0	0	0	0	0	14	0	0
1960	0	0	0	0	0	0	0	0	0	0	0	0
1961	0	0	0	0	41	38	(0)	0	0	0	0	0
1962	0	0	0	0	222	219	135	93	86	0	0	0
1963	238	237	0	238	179	238	232	225	225	0	0	0
1964	0	238	40	238	236	233	192	157	150	0	0	0
1965	0	238	0	238	236	229	238	168	126	0	0	0
1966	0	238	0	237	236	233	229	133	126	0	0	0
1967	0	0	0	238	238	238	238	238	238	0	0	0
1968	203	202	201	238	238	235	193	110	103	0	0	0
1969	0	136	0	238	238	238	238	238	231	0	0	0
1970	238	238	0	238	238	238	238	224	215	0	0	0
1971	0	146	0	238	44	238	75	30	228	0	0	0
1972	0	77	0	238	238	238	234	234	216	0	0	0
1973	0	124	0	238	238	238	238	238	185	0	0	0
1974	0	238	238	238	238	238	238	232	225	0	0	0
1975	85	84	83	(0)	0	0	0	0	0	0	0	0
1976	109	132	0	0	0	0	0	0	0	0	0	0
1977	0	0	0	0	0	0	0	0	0	0	0	0
1978	0	0	0	0	0	0	0	0	0	0	0	0
1979	0	0	0	0	0	0	0	0	0	0	0	0
1980	0	0	0	52	238	238	238	234	227	190	0	0
1981	0	0	0	238	236	233	189	106	99	0	0	0
1982	0	238	0	238	238	238	238	238	231	0	0	0
1983	238	238	0	238	238	238	238	238	238	231	0	0
1984	238	238	0	238	238	238	238	234	227	220	0	0
1985	0	238	0	237	235	232	182	148	141	0	0	0
1986	0	0	0	0	222	238	234	227	220	0	0	0
1987	0	0	0	0	0	0	0	0	0	0	0	0
1988	0	0	0	223	221	218	178	146	139	0	0	0
1989	0	0	0	0	25	20	0	0	0	0	0	0
1990	0	0	0	0	0	0	0	0	0	0	0	0
Average	35	69	96	139	153	157	147	130	118	5	3	10

Table A3-20. DeltaSOS Mean Annual Simulation Output  
for Alternative 1 Cumulative Conditions

Water Year	Sac Basin Year Type	SJR Basin Year Type	Added Sac Flow (TAF)	New Sac Flow (TAF)	Required SJR Flow (TAF)	Added SJR Flow (TAF)	New SJR Flow (TAF)	Steam & Sutter Flow (TAF)	DCC Reduction (TAF)	Revised DCC Flow (TAF)	Revised Georgiana & DCC (TAF)	Revised Rio Vista Flow (TAF)	QWEST w/ Initial Export (TAF)
1922	2	2	1	0	15,237	1,682	0	3,037	4,804	0	949	3,631	11,586
1923	3	1	2	0	14,489	1,663	73	2,564	4,395	0	1,567	4,039	10,425
1924	5	5	5	0	8,586	820	24	1,264	2,261	32	1,115	2,902	5,487
1925	4	3	3	0	12,064	1,213	29	1,491	3,509	0	1,438	3,630	(1,130) (667)
1926	4	4	4	0	11,614	1,107	71	1,511	3,398	0	1,419	3,554	8,157
1927	1	2	2	0	19,015	1,585	30	1,963	6,229	0	1,477	4,501	(1,037) (212)
1928	2	2	2	0	18,455	1,244	30	1,736	6,051	0	4,542	14,683	(275) (886)
1929	5	5	5	0	8,696	820	2	1,306	2,314	42	1,147	2,939	5,573
1930	4	4	4	0	10,768	816	28	1,168	3,052	0	1,269	3,310	(1,021) (285)
1931	5	5	5	0	6,775	790	2	1,257	1,651	91	875	2,453	4,103
1932	4	4	4	0	8,618	1,244	0	1,655	2,274	0	1,442	2,924	5,630
1933	5	5	5	0	7,535	1,004	0	1,388	1,931	97	908	2,579	308 (4,753)
1934	5	5	5	0	8,173	820	4	1,205	2,172	66	916	2,658	5,386 (425)
1935	3	3	3	0	12,496	1,477	0	2,051	3,700	29	1,301	3,554	(372)
1936	3	3	2	0	13,335	1,585	80	2,221	3,996	0	1,365	3,727	10,821
1937	3	1	1	0	12,426	1,682	56	2,860	3,671	0	1,290	3,547	8,936
1938	4	2	2	0	28,179	1,759	0	5,423	9,982	0	1,057	1,533	5,905 (3,269)
1939	4	1	1	0	10,712	1,004	0	1,973	3,007	0	1,498	3,498	6,983 (505)
1940	2	2	2	0	17,638	1,585	78	3,220	3,253	45	1,423	3,528	17,571 (1,644)
1941	1	1	1	0	23,780	1,759	0	3,677	8,157	0	1,370	5,188	2,950 (2,793)
1942	1	1	1	0	25,353	1,759	0	2,986	8,822	0	1,420	5,211	8,936 (804)
1943	1	1	1	0	20,972	1,759	78	3,220	6,984	0	1,426	4,820	17,571 (3,269)
1944	1	1	1	0	11,388	1,140	49	1,472	3,503	1,421	3,616	8,292	7,790 (1,039)
1945	2	2	2	0	12,566	1,507	77	2,321	3,714	0	1,386	3,653	9,005 (244)
1946	3	3	2	0	16,177	1,585	74	2,146	5,102	0	1,435	13,192	1,644 (65)
1947	4	4	3	0	10,949	1,056	50	1,607	3,089	0	1,438	3,480	(1,555) (1,430)
1948	3	3	3	0	13,098	1,140	53	1,421	3,868	0	1,630	3,917	8,948 (2,793)
1949	4	3	3	0	11,993	1,140	49	1,472	3,503	1,421	3,616	8,292	7,790 (1,039)
1950	3	3	3	0	12,811	1,192	0	1,532	3,774	0	1,386	3,653	9,005 (244)
1951	2	2	2	0	21,672	1,663	80	2,663	7,244	0	4,178	1,644 (1,644)	2,950 (2,793)
1952	1	1	1	0	28,323	1,759	0	3,023	9,970	0	1,435	13,192	1,644 (65)
1953	1	1	1	0	18,839	1,295	0	1,965	6,162	0	1,438	3,480	(1,555) (1,430)
1954	2	2	2	0	19,873	1,244	29	1,601	6,490	0	1,426	4,820	17,571 (3,269)
1955	3	3	3	0	11,447	1,004	0	1,365	3,263	0	1,426	3,528	7,790 (1,039)
1956	4	4	4	0	21,768	1,759	0	3,270	7,335	0	1,525	5,011	18,863 (1,611)
1957	2	2	2	0	15,092	1,244	27	1,812	4,642	0	1,438	3,480	(1,555) (1,430)
1958	3	1	1	0	26,266	1,759	1	3,397	9,182	0	1,423	4,820	17,571 (3,269)
1959	3	1	1	0	14,716	1,159	69	1,800	4,523	0	1,536	4,064	10,754 (1,648)
1960	4	4	4	0	11,389	1,842	40	1,179	3,280	0	1,434	3,546	7,790 (1,039)
1961	4	4	4	0	11,459	1,759	45	1,530	3,632	0	1,434	3,545	7,790 (1,039)
1962	3	3	3	0	12,372	1,110	0	1,934	6,877	0	1,426	4,820	17,571 (3,269)
1963	3	3	3	0	20,611	1,585	0	1,361	3,615	0	1,540	5,171	29,612 (3,022)
1964	4	4	4	0	12,397	1,004	3	1,709	4,523	0	1,540	5,171	29,612 (3,022)
1965	5	5	5	0	11,459	1,759	40	2,404	3,228	0	1,434	3,545	7,790 (1,039)
1966	3	3	3	0	12,732	1,759	0	1,730	7,335	0	1,434	3,545	7,790 (1,039)
1967	4	4	4	0	22,181	1,759	0	1,530	3,632	0	1,434	3,545	7,790 (1,039)
1968	3	3	3	0	15,971	1,159	49	1,709	5,020	0	1,426	4,820	17,571 (3,269)
1969	4	4	4	0	23,660	1,759	0	5,442	8,066	0	1,434	3,545	7,790 (1,039)
1970	1	1	1	0	21,543	1,585	74	3,357	7,316	0	1,506	5,171	29,612 (3,022)
1971	1	1	1	0	13,210	1,295	0	1,515	6,908	0	1,378	4,952	19,247 (1,399)
1972	1	1	1	0	22,181	1,759	49	2,011	4,172	0	1,502	3,913	10,033 (959)
1973	2	2	2	0	15,971	1,159	49	3,439	7,335	0	1,444	4,729	19,913 (1,549)
1974	1	1	1	0	19,810	1,663	49	1,709	5,020	0	1,426	4,226	12,181 (740)
1975	2	2	2	0	29,264	1,759	2	2,240	10,392	0	1,543	5,297	23,945 (5,690)
1976	5	5	5	0	21,546	1,682	9	2,310	6,784	0	1,506	5,006	24,373 (3,752)
1977	5	5	5	0	6,824	1,759	0	1,016	1,703	0	1,378	4,952	19,620 (1,399)
1978	2	2	2	0	16,859	1,729	0	2,267	5,405	0	1,525	4,952	19,620 (1,399)
1979	3	3	3	0	13,993	1,585	78	2,378	4,235	0	1,449	4,384	10,033 (959)
1980	2	2	2	0	29,264	1,759	0	2,240	10,392	0	1,543	4,384	23,945 (5,690)
1981	1	1	1	0	14,093	1,159	49	1,962	3,885	0	1,436	3,756	9,162 (1,399)
1982	1	1	1	0	29,591	1,759	3	5,389	10,473	36	1,821	2,391	4,233 (428)
1983	1	1	1	0	35,577	1,759	0	15,726	12,980	1,187	1,449	4,063	15,113 (1,399)
1984	1	1	2	0	23,213	1,585	74	2,267	4,235	0	1,449	3,884	10,033 (959)
1985	4	4	4	0	13,038	1,107	50	1,909	3,861	0	1,485	3,790	9,191 (591)
1986	1	1	4	0	1,682	1,682	0	4,814	6,463	0	1,300	4,534	23,167 (4,991)
1987	4	4	4	0	10,952	16	0	1,661	3,102	0	1,383	3,437	7,309 (1,270)
1988	5	5	5	0	9,416	1,782	6	1,020	2,563	38	1,161	3,048	6,236 (812)
1989	4	4	4	0	1,036	31	4	3,442	2,288	31	1,324	3,490	8,090 (812)
1990	5	5	5	0	8,612	816	37	2,286	2,286	52	1,143	2,839	5,561 (564)
Average				0	15,998	1,326	26	2,427	5,091	8	1,347	4,090	13,793

Notes: Definitions of the categories are provided in Table A2-3 in Appendix A2.

Water-year types: 1=wet, 2=above normal, 3=below normal, 4=dry, 5=critically dry

Negative values shown in parentheses.

Table A3-20. Continued

Water Year	Reduced Export for QWEST (TAF)	Initial Collinsville Outflow (TAF)	Initial Chips Outflow (TAF)	Required Delta Outflow (TAF)	Revised Montezuma Flow (TAF)	Reduced Export Outflow (TAF)	Export for Limits (TAF)	Reduced Export for Limits (TAF)	Net Export Change (TAF)	Adjusted Total Export (TAF)	Revised QWEST Flow (TAF)	Revised Collinsville Outflow (TAF)
1922	0	12,321	11,391	6,103	930	1	8,364	0	1,001	7,185	(177)	11,320
1923	0	10,803	9,917	5,833	886	0	9,521	0	1,021	7,212	(556)	9,782
1924	0	4,180	3,375	4,063	805	3	5,401	0	1,149	4,561	(1,149)	4,161
1925	0	8,292	7,430	5,195	862	3	6,923	0	246	5,981	(914)	8,045
1926	0	7,022	6,175	5,006	847	3	6,923	0	243	5,976	(1,280)	6,779
1927	0	17,655	16,686	6,980	970	1	10,720	0	1,264	7,506	(1,052)	16,391
1928	0	14,277	13,355	6,665	922	1	10,032	0	1,064	7,391	(1,339)	13,213
1929	0	4,573	3,760	4,418	813	3	5,435	0	19	4,583	(906)	4,553
1930	0	6,245	5,414	5,052	832	3	6,182	0	201	5,210	(1,222)	6,044
1931	0	3,702	2,901	3,657	800	3	4,306	0	14	3,341	(301)	3,688
1932	0	5,849	5,019	5,190	831	1	5,625	0	297	4,444	5,553	5,295
1933	0	4,313	3,503	4,050	813	3	4,694	0	18	3,696	(344)	4,295
1934	0	4,853	4,038	4,532	815	3	4,803	0	141	3,878	(564)	4,712
1935	0	9,477	8,584	6,455	893	3	7,413	0	348	6,274	(720)	9,129
1936	0	10,877	9,993	6,248	883	3	8,419	0	325	6,478	(189)	10,552
1937	0	9,666	8,791	5,287	874	3	7,752	0	504	6,919	(3,365)	9,365
1938	0	36,940	35,736	8,125	1,204	1	18,482	0	2,470	8,697	(3,435)	34,470
1939	0	6,353	5,520	4,357	833	0	6,865	0	1,055	6,143	(1,565)	5,298
1940	0	17,676	16,697	7,246	979	1	10,409	0	665	7,085	(565)	17,011
1941	0	30,529	29,403	7,019	1,125	1	16,412	0	1,207	7,482	(1,744)	29,322
1942	0	27,769	26,688	6,671	1,082	0	16,125	0	2,353	8,302	440	25,416
1943	0	20,751	19,767	7,309	984	0	13,363	0	2,208	7,766	1,050	18,543
1944	0	6,521	5,686	4,952	835	0	6,788	0	6,405	(1,281)	(800)	6,405
1945	0	8,664	7,806	5,277	858	0	7,966	0	8,108	8,108	12,434	12,434
1946	0	13,020	12,120	6,219	900	1	11,239	0	586	6,876	(1,599)	5,568
1947	0	4,756	5,072	827	827	0	6,751	0	15	6,048	(1,519)	7,320
1948	0	7,409	6,543	5,487	866	0	7,141	0	90	6,390	6,919	6,919
1949	0	7,142	6,299	4,921	843	0	6,947	0	223	6,486	(1,262)	7,244
1950	0	7,579	6,725	5,599	854	0	7,295	0	1,049	7,815	(1,495)	7,244
1951	0	20,237	19,264	6,326	972	0	14,970	0	907	19,188	25,837	19,188
1952	0	27,785	26,665	7,985	1,120	0	15,787	0	2,158	7,462	(1,391)	15,218
1953	0	17,375	16,419	6,080	940	0	12,676	0	1,561	6,737	(1,448)	15,166
1954	0	14,909	13,968	7,021	940	0	10,339	0	567	6,481	(2,269)	13,166
1955	0	6,255	5,422	5,051	834	0	7,342	0	451	6,468	(1,868)	5,804
1956	0	27,158	26,099	6,221	1,058	0	17,795	0	1,022	7,845	(1,353)	26,136
1957	0	10,196	9,315	5,661	880	0	8,552	0	2,062	7,348	(1,802)	9,133
1958	0	32,590	31,417	7,267	1,173	0	16,082	0	2,260	9,307	30,330	30,330
1959	0	10,755	9,880	5,294	875	0	8,800	0	1,561	6,737	(1,937)	9,194
1960	0	6,062	5,230	5,023	832	0	6,803	0	567	6,481	(1,448)	5,903
1961	0	6,020	5,189	5,097	831	0	6,756	0	567	6,481	(1,448)	5,903
1962	0	8,134	7,281	5,053	853	0	8,613	0	184	5,947	(1,888)	5,836
1963	0	18,707	17,694	7,329	1,013	0	11,162	0	150	5,947	(1,101)	19,667
1964	0	7,008	6,169	5,433	839	0	11,793	0	1,455	8,106	(1,473)	6,441
1965	0	19,912	18,920	6,670	991	0	14,496	0	6,481	9,194	(1,937)	19,290
1966	0	8,964	8,102	5,602	862	0	8,613	0	895	7,272	(1,855)	8,069
1967	0	21,799	20,750	7,553	1,049	0	13,108	0	2,132	8,997	(1,977)	17,252
1968	0	12,778	11,884	5,767	1,123	0	9,256	0	2,213	8,643	(1,977)	10,095
1969	0	28,036	26,997	5,657	1,039	0	18,655	0	2,775	7,806	27,355	25,261
1970	0	16,015	16,015	6,627	960	0	10,903	0	2,030	8,523	(1,110)	14,945
1971	0	16,639	15,687	7,054	952	0	12,449	0	972	7,785	(1,157)	15,567
1972	0	7,581	6,735	5,409	846	0	7,849	0	863	7,832	(2,412)	19,667
1973	0	19,377	18,410	6,821	966	0	12,919	0	1,223	8,463	(329)	18,153
1974	0	32,083	30,958	6,944	1,126	0	19,746	0	1,800	8,628	338	30,284
1975	0	16,975	16,015	6,627	960	0	10,903	0	2,030	8,523	(1,110)	14,945
1976	0	5,526	4,706	4,416	821	0	6,343	0	532	5,531	(1,795)	4,995
1977	0	3,682	2,882	3,657	800	0	4,264	0	24	3,076	(452)	3,658
1978	0	17,228	16,266	7,953	962	0	10,117	0	1,797	6,304	(374)	16,369
1979	0	10,275	9,397	5,844	878	0	8,242	0	1,255	7,059	(900)	9,020
1980	0	23,524	22,552	6,568	1,002	0	14,443	0	1,468	7,141	2,772	22,056
1981	0	5,913	5,052	5,757	855	0	4,749	0	1,412	7,000	(1,848)	5,700
1982	0	35,733	35,733	1,240	0	0	20,240	0	0	9,287	4,933	34,952
1983	0	6,414	6,258	6,197	1,553	0	31,346	0	0	5,222	3,635	15,431
1984	0	30,285	29,222	9,063	1,063	0	19,746	0	0	10,635	8,069	9,020
1985	0	8,501	7,647	5,084	854	0	10,903	0	0	3,493	4,735	26,792
1986	0	28,103	27,051	6,155	1,052	0	14,333	0	0	893	6,827	(1,484)
1987	0	5,913	5,083	4,819	829	0	2,2	0	0	0	7,127	4,132
1988	0	5,167	4,349	4,505	818	0	3	0	0	0	5,926	5,794
1989	0	6,669	5,825	4,816	844	0	2	0	0	0	4,655	4,435
1990	0	4,640	3,825	4,506	814	0	3	0	0	0	4,878	4,568
1991	0	4,062	4,088	816	3	0	0	0	0	0	3,828	4,388
Average	0	14,587	13,656	5,802	931	1	10,291	1	1,029	6,741	(142)	13,558

Table A3-20. Continued

Water Year	Available for DW Diversion (TAF)	Delta Storage (TAF)	Delta Storage Export (TAF)	Delta Storage Outflow (TAF)	Final Total Export (TAF)	Final QMEST Flow (TAF)	Final Delta Outflow (TAF)	3-Mile Slough Flow (TAF)	Old River Diversion Flow (TAF)	Final Antioch Flow (TAF)	Old & Middle Flow (TAF)
1922	276	288	263	219	0	7,404 (440)	11,057	2,839	1,587	2,399	(6,316)
1923	1,512	288	288	241	0	7,453 (794)	9,544	2,679	1,369	1,885	6,579
1924	0	0	0	0	0	4,561 (1,149)	4,161	1,627	825	478	(4,395)
1925	597	222	241	190	0	6,171 (1,481)	7,804	2,469	852	1,315	5,797
1926	201	186	201	154	0	6,130 (1,326)	6,578	2,366	877	885	(5,791)
1927	1,965	288	274	243	0	7,749 (1,326)	16,118	4,501	1,038	3,175	(7,190)
1928	1,828	288	247	208	0	7,600 (1,587)	12,966	3,913	996	2,326	(7,151)
1929	0	0	0	0	0	4,583 (906)	4,553	1,583	851	677	(4,338)
1930	85	86	85	72	0	5,282 (1,307)	5,959	2,127	764	820	(5,956)
1931	0	0	0	0	0	3,341 (301)	3,688	1,051	831	750	(3,120)
1932	0	0	0	0	0	4,444 (344)	5,553	1,309	943	1,320	(4,014)
1933	0	0	0	0	0	3,878 (564)	4,295	1,216	872	872	(3,461)
1934	0	0	0	0	0	6,481 (808)	4,712	1,432	805	868	(3,672)
1935	335	288	237	207	0	6,481 (957)	8,892	2,616	1,100	1,659	(5,879)
1936	1,139	288	235	206	0	6,385 (424)	10,317	2,655	1,192	2,231	(5,956)
1937	657	288	259	214	0	6,392 (245)	9,106	2,006	1,494	2,251	(5,343)
1938	7,363	288	265	225	0	8,922 (3,170)	34,205	6,255	3,087	9,424	(6,209)
1939	203	207	203	172	0	6,315 (1,767)	5,096	2,182	995	414	(5,946)
1940	2,041	288	242	214	0	7,299 (7,299)	16,768	4,365	1,046	3,558	(6,655)
1941	5,155	288	249	219	0	7,700 (1,494)	29,072	5,972	2,157	7,466	(5,890)
1942	4,080	288	247	213	0	8,515 (1,93)	25,169	5,779	1,534	7,427	(5,343)
1943	3,664	288	243	210	0	7,976 (817)	18,300	3,840	1,611	4,657	(6,863)
1944	1,944	0	0	0	0	6,045 (1,281)	6,405	2,217	984	936	(5,623)
1945	656	222	241	190	0	6,880 (1,041)	7,867	2,426	1,254	1,384	(6,160)
1946	1,792	288	241	242	0	7,118 (885)	12,200	3,353	1,139	2,468	(6,553)
1947	0	0	0	0	0	6,048 (1,599)	5,568	2,199	958	600	(5,702)
1948	254	288	233	208	0	6,390 (1,495)	7,320	2,562	806	1,043	(6,165)
1949	254	21	22	21	6	6,492 (1,495)	6,685	2,402	905	580	(5,870)
1950	1950	22	21	21	6	6,492 (1,517)	7,223	2,539	866	1,022	(6,215)
1951	4,502	288	244	206	0	8,021 (663)	18,943	4,073	1,430	4,736	(7,065)
1952	4,681	288	303	225	0	9,100 (663)	5,534	5,579	1,548	6,290	(7,962)
1953	1,917	288	194	206	0	7,668 (1,585)	15,023	4,392	806	1,043	(6,165)
1954	1,497	288	419	383	0	8,498 (2,688)	12,747	4,468	908	1,780	(8,198)
1955	319	288	234	204	0	6,671 (2,102)	5,570	2,471	839	369	(6,387)
1956	4,549	288	249	219	0	8,064 (1,103)	25,587	5,447	1,711	6,551	(6,773)
1957	361	288	361	335	0	7,683 (2,163)	8,773	3,252	964	1,090	(7,298)
1958	5,034	288	271	225	0	9,100 (491)	30,060	6,749	2,019	7,240	(7,832)
1959	1,192	288	427	428	0	5,015 (1,875)	5,903	3,094	997	1,220	(6,759)
1960	0	0	0	0	0	5,993 (1,807)	2,740	3,290	802	583	(5,812)
1961	45	41	45	34	0	6,139 (1,942)	5,791	2,437	763	495	(5,782)
1962	679	222	241	192	0	8,374 (1,342)	7,743	2,561	892	1,219	(7,777)
1963	2,087	288	303	267	0	7,683 (1,776)	16,949	4,939	1,021	3,163	(7,797)
1964	2,756	288	435	397	0	8,374 (2,372)	6,006	4,724	849	352	(6,645)
1965	2,633	288	247	217	0	7,689 (1,110)	19,043	4,526	1,246	4,411	(6,645)
1966	726	288	243	204	0	7,501 (2,097)	7,826	2,996	1,110	6,974	(6,974)
1967	3,091	288	272	218	0	9,215 (457)	19,395	4,785	1,729	4,328	(7,877)
1968	1,224	288	226	206	0	7,672 (2,203)	9,986	3,530	943	1,327	(7,310)
1969	5,106	288	400	216	0	8,861 (3,077)	26,955	4,618	3,097	7,694	(6,176)
1970	4,599	288	397	397	0	8,879 (2,372)	25,163	5,406	1,632	6,885	(6,885)
1971	2,192	288	433	417	0	7,501 (2,097)	15,234	4,442	993	2,853	(7,737)
1972	76	76	61	8,202	0	7,268 (1,590)	6,642	2,937	902	449	(7,002)
1973	3,239	288	244	209	0	8,041 (472)	17,910	4,445	1,204	3,973	(7,184)
1974	5,060	288	252	213	0	8,841 (8,86)	30,032	6,973	1,154	7,060	(8,170)
1975	1,805	288	257	208	0	8,731 (1,368)	14,688	4,194	1,176	2,826	(8,090)
1976	131	182	181	128	0	8,659 (452)	4,864	2,196	755	290	(5,563)
1977	0	0	0	0	0	3,076 (452)	3,658	1,128	676	676	(3,050)
1978	2,136	288	243	213	0	6,517 (1,31)	15,188	3,482	1,158	3,613	(5,737)
1979	488	288	235	206	0	8,785 (1,31)	2,689	1,220	1,554	5,555	(5,251)
1980	4,574	288	239	209	0	7,350 (2,533)	2,533	2,567	6,251	6,251	(5,251)
1981	271	288	205	177	0	7,204 (2,081)	6,967	2,788	1,068	707	(6,736)
1982	7,154	288	492	219	0	6,517 (4,441)	34,460	5,617	3,355	10,057	(6,477)
1983	19,189	288	98	41	0	7,266 (1,135)	16,271	5,882	9,324	21,093	(5,139)
1984	7,824	288	11	208	0	8,277 (4,723)	4,723	3,685	8,408	8,408	(5,153)
1985	1,001	288	242	204	0	7,031 (1,726)	7,356	2,683	1,103	958	(6,469)
1986	5,489	288	259	208	0	7,335 (3,873)	26,985	4,187	2,756	8,059	(4,941)
1987	0	0	0	0	0	5,926 (1,389)	5,794	2,137	919	748	(5,620)
1988	218	223	218	190	0	4,844 (1,567)	4,740	2,877	685	501	(4,735)
1989	24	25	14	0	0	5,526 (884)	6,411	2,377	646	810	(5,473)
1990	0	0	0	0	0	4,137 (585)	4,568	1,573	633	690	(4,095)
1991	0	0	0	0	0	3,828 (585)	4,558	1,477	634	893	(3,792)
Average	1,996	173	191	166	0	6,907 (333)	13,367	3,320	1,369	2,987	(6,056)

Table A3–21. Monthly Percentiles for DeltaSOS Simulations  
for Alternative 1 Cumulative Conditions

DW diversion (cfs)

Percentile	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	15	30	0	0	0	0	0	0
60	0	0	0	0	15	31	0	0	0	0	0	0
70	0	0	0	13	15	31	49	0	0	0	0	0
80	0	517	839	620	31	49	76	0	0	0	0	0
90	1,875	4,000	3,871	3,871	2,790	49	76	99	0	0	0	0
100	3,871	4,000	3,871	3,871	4,000	3,871	1,068	1,572	118	130	0	3,888
Mean	415	613	611	702	443	173	35	36	8	2	123	

DW storage (TAF)

Percentile	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
0	0	0	(0)	0	0	0	(0)	0	0	(0)	(0)	0
10	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	29	70	12	0	0	0	0
40	0	0	0	0	77	186	183	153	110	86	0	0
50	0	0	0	0	238	222	229	207	147	132	0	0
60	0	0	0	83	238	236	235	231	198	182	0	0
70	0	124	238	238	238	238	238	234	224	193	0	0
80	0	204	238	238	238	238	238	238	232	220	0	0
90	203	238	238	238	238	238	238	238	231	0	0	0
100	238	238	238	238	238	238	238	238	238	189	238	238
Mean	35	69	96	139	153	157	147	130	118	5	3	10

DW discharge for export (cfs)

Percentile	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	52	0	2,977	0
80	0	0	0	0	0	0	0	0	456	136	3,378	0
90	0	0	0	0	0	0	0	0	637	586	3,627	0
100	0	2,543	3,313	4,000	2,691	1,332	2,428	2,822	3,741	1,379	0	0
Mean	0	45	171	0	169	71	140	236	130	1,759	29	0

DW discharge for outflow (cfs)

Percentile	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0
80	0	0	0	0	0	0	0	0	0	0	0	0
90	0	0	0	0	0	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0	0	0	0	0	0
Mean	0	0	0	0	0	0	0	0	0	0	0	0

Final CVP Tracy and SWP Banks exports (cfs)

Percentile	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
0	4,278	3,314	5,051	4,859	6,075	3,220	2,842	2,455	1,145	1,896	597	3,286
10	5,115	5,373	7,347	8,701	6,407	4,525	3,672	3,267	5,500	6,208	3,508	3,617
20	6,844	6,628	7,821	10,950	7,754	6,095	4,071	3,691	5,568	7,611	4,790	5,915
30	7,982	7,360	10,347	11,590	9,746	8,217	4,908	4,375	5,804	9,978	5,143	6,076
40	8,490	8,371	11,155	13,474	11,320	10,191	5,753	5,424	6,202	11,365	5,924	6,384
50	9,045	10,658	12,369	14,500	14,500	12,287	6,573	6,047	6,595	11,366	6,699	6,543
60	9,700	12,910	13,448	14,500	14,500	13,992	7,380	6,581	6,968	12,180	7,367	6,710
70	11,911	14,219	14,500	14,500	14,500	14,500	8,921	7,882	7,148	12,880	8,026	7,454
80	14,542	14,900	14,500	14,500	14,500	14,500	10,960	9,632	8,756	13,530	9,675	10,087
90	14,900	14,900	14,500	14,500	14,500	14,500	11,760	11,760	11,317	14,202	11,347	14,029
100	14,900	14,900	14,500	14,500	14,500	14,500	14,900	14,900	14,900	14,900	14,900	14,900
Mean	9,962	10,461	11,640	12,762	11,842	10,832	7,379	6,866	7,476	10,862	6,979	7,575

Table A3-22a. DeltaSOS—Simulated DW Operations for Alternative 2 Cumulative Conditions: DW Diversions to Storage (cfs)

Water Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total (TAF)
1922	0	0	0	0	2,790	0	0	0	0	0	0	0	276
1923	677	692	2,562	15	0	0	0	0	0	0	0	0	238
1924	0	0	0	0	0	4,000	0	0	0	0	0	0	0
1925	0	0	0	0	0	3,343	0	0	0	0	0	0	241
1926	0	0	0	0	0	0	0	0	0	0	0	0	201
1927	0	517	0	3,871	31	0	0	0	0	0	0	0	274
1928	0	4,000	0	2,219	0	0	0	0	0	0	0	0	558
1929	0	0	0	0	1,406	0	0	0	0	0	0	0	0
1930	0	0	0	0	0	0	0	0	0	0	0	0	85
1931	0	0	0	0	0	0	0	0	0	0	0	0	0
1932	0	0	0	0	0	0	0	0	0	0	0	0	0
1933	0	0	0	0	0	0	0	0	0	0	0	0	0
1934	0	0	0	0	0	0	0	0	0	0	0	0	0
1935	0	0	0	0	0	0	0	0	0	0	0	0	0
1936	0	0	0	0	0	0	0	0	0	0	0	0	0
1937	0	0	0	0	0	0	0	0	0	0	0	0	0
1938	0	4,000	0	13	15	0	0	0	0	0	0	0	235
1939	3,364	0	0	0	0	0	0	0	0	0	0	0	265
1940	0	0	0	0	0	0	0	0	0	0	0	0	203
1941	0	0	3,871	15	31	0	0	0	0	0	0	0	242
1942	1,815	675	1,440	15	31	0	0	0	0	0	0	0	249
1943	2,847	1,083	13	15	31	0	0	0	0	0	0	0	243
1944	0	0	0	0	0	0	0	0	0	0	0	0	0
1945	0	0	3,871	15	0	0	0	0	0	0	0	0	241
1946	0	0	0	0	0	0	0	0	0	0	0	0	234
1947	0	0	0	0	0	0	0	0	0	0	0	0	0
1948	0	0	0	0	0	0	0	0	0	0	0	0	0
1949	0	0	0	0	0	0	0	0	0	0	0	0	233
1950	0	0	0	0	0	0	0	0	0	0	0	0	21
1951	0	4,000	0	13	15	31	0	0	0	0	0	0	244
1952	0	0	3,871	15	30	0	49	76	99	0	0	0	779
1953	2,853	0	2,092	0	0	0	0	0	0	0	0	0	303
1954	0	2,926	0	3,871	15	31	0	49	76	99	0	0	419
1955	0	0	3,871	15	30	0	49	76	99	0	0	0	234
1956	0	2,486	0	3,871	0	0	0	0	0	0	0	0	258
1957	0	0	0	0	0	0	0	0	0	0	0	0	361
1958	0	3,178	0	3,871	15	31	0	49	76	99	0	0	233
1959	0	0	0	0	0	0	0	0	0	0	0	0	271
1960	0	0	0	0	0	0	0	0	0	0	0	0	427
1961	0	0	0	0	0	0	0	0	0	0	0	0	0
1962	0	0	0	0	0	0	0	0	0	0	0	0	0
1963	3,871	0	241	0	3,871	0	0	0	0	0	0	0	0
1964	0	4,000	0	3,871	0	0	0	0	0	0	0	0	0
1965	0	0	3,871	15	31	0	0	0	0	0	0	0	45
1966	0	4,000	0	1,548	0	0	0	0	0	0	0	0	336
1967	0	0	3,871	15	31	0	49	76	99	0	0	0	241
1968	0	3,106	0	3,871	0	0	0	0	0	0	0	0	591
1969	0	0	2,209	0	1,676	31	0	49	76	99	0	0	244
1970	1,501	25	13	15	31	0	0	0	0	0	0	0	250
1971	0	2,459	0	1,504	15	31	0	0	0	0	0	0	272
1972	0	0	1,260	0	0	0	0	0	0	0	0	0	76
1973	0	2,082	0	1,869	15	31	0	49	0	0	0	0	244
1974	0	4,000	0	13	15	31	0	49	76	99	0	0	422
1975	1,388	0	409	0	4,000	307	0	0	0	0	0	0	474
1976	1,768	0	0	0	0	0	0	0	0	0	0	0	334
1977	0	0	0	0	0	0	0	0	0	0	0	0	259
1978	0	0	0	0	0	0	0	0	0	0	0	0	272
1979	0	0	0	0	0	0	0	0	0	0	0	0	0
1980	0	0	839	0	3,046	30	49	0	0	0	0	0	462
1981	0	0	0	0	3,871	0	0	0	0	0	0	0	591
1982	0	4,000	0	13	15	31	0	49	76	99	0	0	474
1983	161	25	13	15	31	0	0	0	0	0	0	0	492
1984	53	0	4,000	13	0	0	0	0	0	0	0	0	3,888
1985	0	0	0	0	0	0	0	0	0	0	0	0	914
1986	0	0	0	0	0	0	0	0	0	0	0	0	98
1987	0	0	0	0	0	0	0	0	0	0	0	0	235
1988	0	0	0	0	0	0	0	0	0	0	0	0	242
1989	0	0	0	0	0	0	0	0	0	0	0	0	259
1990	0	0	0	0	0	0	0	0	0	0	0	0	0
1991	0	0	0	0	0	0	0	0	0	0	0	0	0
Average	415	613	644	811	501	226	111	41	8	2	0	123	211

Table A3-22b. DeltaSOS-Simulated DW Operations  
for Alternative 2 Cumulative Conditions: DW Discharge to Export Wheeling (cfs)

Water Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total (TAF)
1922	0	0	0	0	0	4,000	508	0	0	89	3,252	0	232
1923	0	0	0	0	0	0	181	0	0	0	0	0	252
1924	0	0	0	0	0	0	3,564	0	0	0	0	0	0
1925	0	0	0	0	0	0	2,971	0	0	0	0	0	215
1926	0	0	0	0	0	0	0	0	0	0	0	0	179
1927	0	0	0	0	0	0	487	0	0	0	0	0	257
1928	0	0	0	0	0	0	2,191	0	0	0	0	0	546
1929	0	0	0	0	0	0	0	3,180	0	0	0	0	0
1930	0	0	0	0	0	0	0	0	0	0	0	0	92
1931	0	0	0	0	0	0	0	0	0	0	0	0	0
1932	0	0	0	0	0	0	0	0	0	0	0	0	0
1933	0	0	0	0	0	0	0	0	0	0	0	0	0
1934	0	0	0	0	0	0	0	0	0	0	0	0	0
1935	0	0	0	0	0	0	0	0	0	0	0	0	0
1936	0	0	0	0	0	0	0	0	0	0	0	0	0
1937	0	0	0	0	0	0	0	0	0	0	0	0	0
1938	0	0	0	0	0	0	0	0	0	0	0	0	0
1939	0	0	0	0	0	0	0	0	0	0	0	0	0
1940	0	0	0	0	0	0	0	0	0	0	0	0	0
1941	0	0	0	0	0	0	0	0	0	0	0	0	0
1942	0	0	0	0	0	0	0	0	0	0	0	0	0
1943	0	0	0	0	0	0	0	0	0	0	0	0	0
1944	0	0	0	0	0	0	0	0	0	0	0	0	0
1945	0	0	0	0	0	0	0	0	0	0	0	0	0
1946	0	0	0	0	0	0	0	0	0	0	0	0	0
1947	0	0	0	0	0	0	0	0	0	0	0	0	0
1948	0	0	0	0	0	0	0	0	0	0	0	0	0
1949	0	0	0	0	0	0	0	0	0	0	0	0	0
1950	0	0	0	0	0	0	0	0	0	0	0	0	0
1951	0	0	0	0	0	0	0	0	0	0	0	0	0
1952	0	0	0	0	0	0	0	0	0	0	0	0	0
1953	0	0	0	0	0	0	0	0	0	0	0	0	0
1954	0	0	0	0	0	0	0	0	0	0	0	0	0
1955	0	0	0	0	0	0	0	0	0	0	0	0	0
1956	0	0	0	0	0	0	0	0	0	0	0	0	0
1957	0	0	0	0	0	0	0	0	0	0	0	0	0
1958	0	0	0	0	0	0	0	0	0	0	0	0	0
1959	0	0	0	0	0	0	0	0	0	0	0	0	0
1960	0	0	0	0	0	0	0	0	0	0	0	0	0
1961	0	0	0	0	0	0	0	0	0	0	0	0	0
1962	0	0	0	0	0	0	0	0	0	0	0	0	0
1963	0	0	0	0	0	0	0	0	0	0	0	0	0
1964	0	0	0	0	0	0	0	0	0	0	0	0	0
1965	0	0	0	0	0	0	0	0	0	0	0	0	0
1966	0	0	0	0	0	0	0	0	0	0	0	0	0
1967	0	0	0	0	0	0	0	0	0	0	0	0	0
1968	0	0	0	0	0	0	0	0	0	0	0	0	0
1969	0	0	0	0	0	0	0	0	0	0	0	0	0
1970	0	0	0	0	0	0	0	0	0	0	0	0	0
1971	0	0	0	0	0	0	0	0	0	0	0	0	0
1972	0	0	0	0	0	0	0	0	0	0	0	0	0
1973	0	0	0	0	0	0	0	0	0	0	0	0	0
1974	0	0	0	0	0	0	0	0	0	0	0	0	0
1975	0	0	0	0	0	0	0	0	0	0	0	0	0
1976	0	0	0	0	0	0	0	0	0	0	0	0	0
1977	0	0	0	0	0	0	0	0	0	0	0	0	0
1978	0	0	0	0	0	0	0	0	0	0	0	0	0
1979	0	0	0	0	0	0	0	0	0	0	0	0	0
1980	0	0	0	0	0	0	0	0	0	0	0	0	0
1981	0	0	0	0	0	0	0	0	0	0	0	0	0
1982	0	0	0	0	0	0	0	0	0	0	0	0	0
1983	0	0	0	0	0	0	0	0	0	0	0	0	0
1984	0	0	0	0	0	0	0	0	0	0	0	0	0
1985	0	0	0	0	0	0	0	0	0	0	0	0	0
1986	0	0	0	0	0	0	0	0	0	0	0	0	0
1987	0	0	0	0	0	0	0	0	0	0	0	0	0
1988	0	0	0	0	0	0	0	0	0	0	0	0	0
1989	0	0	0	0	0	0	0	0	0	0	0	0	0
1990	0	0	0	0	0	0	0	0	0	0	0	0	0
1991	0	0	0	0	0	0	0	0	0	0	0	0	0
Average	0	160	254	90	651	507	45	212	817	500	29	0	197

Table A3-22c. DeltaSOS—Simulated DW Operations  
for Alternative 2 Cumulative Conditions: DW End-of-Month Storage (TAF)

Water Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1922	0	42	0	81	0	238	0	155	121	116	220	208
1923	42	0	0	238	0	238	14	0	0	0	0	0
1924	0	0	0	0	0	0	222	(0)	0	0	0	0
1925	0	0	0	0	0	0	186	238	238	232	0	0
1926	0	0	31	0	238	238	53	238	234	204	(0)	0
1927	0	0	238	102	0	0	0	0	0	0	0	0
1928	0	0	0	0	86	(0)	0	0	0	0	0	0
1929	0	0	0	0	0	0	0	0	0	0	0	0
1930	0	0	0	0	0	0	0	0	0	0	0	0
1931	0	0	0	0	0	0	0	0	0	0	0	0
1932	0	0	0	0	0	0	0	0	0	0	0	0
1933	0	0	0	0	0	0	0	0	0	0	0	0
1934	0	0	0	0	0	0	0	0	0	0	0	0
1935	0	0	0	0	0	0	0	0	0	0	0	0
1936	0	0	0	0	0	0	0	0	0	0	0	0
1937	0	0	0	0	0	0	0	0	0	0	0	0
1938	0	238	238	0	0	0	0	0	0	0	0	0
1939	207	102	0	0	0	0	0	0	0	0	0	0
1940	0	0	0	0	0	0	0	0	0	0	0	0
1941	0	0	238	238	0	0	0	0	0	0	0	0
1942	112	150	238	238	0	0	0	0	0	0	0	0
1943	175	238	238	0	0	0	0	0	0	0	0	0
1944	0	0	0	0	0	0	0	0	0	0	0	0
1945	0	0	0	0	0	0	0	0	0	0	0	0
1946	0	0	238	0	0	0	0	0	0	0	0	0
1947	0	0	0	0	0	0	0	0	0	0	0	0
1948	0	0	0	0	0	0	0	0	0	0	0	0
1949	0	0	0	0	0	0	0	0	0	0	0	0
1950	0	0	0	0	0	0	0	0	0	0	0	0
1951	0	238	238	0	0	0	0	0	0	0	0	0
1952	0	238	238	0	0	0	0	0	0	0	0	0
1953	218	110	238	238	21	(0)	0	0	0	0	0	0
1954	0	174	0	238	238	0	0	0	0	0	0	0
1955	0	0	0	238	14	0	0	0	0	0	0	0
1956	153	0	0	238	238	0	0	0	0	0	0	0
1957	0	0	0	238	29	0	0	0	0	0	0	0
1958	1959	206	86	(0)	0	0	0	0	0	0	0	0
1959	0	0	0	0	0	0	0	0	0	0	0	0
1960	0	0	0	0	0	0	0	0	0	0	0	0
1961	0	0	0	0	0	0	0	0	0	0	0	0
1962	0	0	0	0	0	0	0	0	0	0	0	0
1963	238	224	238	79	6	(0)	0	0	0	0	0	0
1964	0	238	238	0	0	0	0	0	0	0	0	0
1965	0	0	238	238	195	(0)	0	0	0	0	0	0
1966	0	238	144	238	50	0	0	0	0	0	0	0
1967	0	0	238	238	0	0	0	0	0	0	0	0
1968	203	100	0	136	238	238	217	188	128	121	92	15
1969	1969	238	0	238	238	238	201	154	154	154	149	149
1970	1971	0	146	238	14	0	238	238	238	238	238	238
1972	0	0	77	15	0	0	0	0	0	0	0	0
1973	0	124	238	238	238	0	0	0	0	0	0	0
1974	0	238	238	0	0	0	0	0	0	0	0	0
1975	85	10	(0)	0	0	0	0	0	0	0	0	0
1976	109	132	(0)	0	0	0	0	0	0	0	0	0
1977	0	0	0	0	0	0	0	0	0	0	0	0
1978	0	0	0	0	0	0	0	0	0	0	0	0
1979	0	0	0	0	0	0	0	0	0	0	0	0
1980	0	0	0	52	238	238	200	99	(0)	0	0	0
1981	0	0	0	56	238	238	0	0	0	0	0	0
1982	0	238	238	238	238	238	238	238	18	(0)	0	0
1983	238	238	238	238	238	238	225	0	0	0	0	0
1984	238	238	238	71	0	0	234	(0)	0	0	0	0
1985	0	0	0	222	0	0	0	0	0	0	0	0
1986	0	0	0	223	(0)	0	0	0	0	0	0	0
1987	0	0	0	0	0	0	0	0	0	0	0	0
1988	0	0	0	0	0	0	0	0	0	0	0	0
1989	0	0	0	0	0	0	0	0	0	0	0	0
1990	0	0	0	0	0	0	0	0	0	0	0	0
1991	0	0	0	0	0	0	0	0	0	0	0	0
Average	35	62	86	129	120	100	102	88	37	5	3	10

Table A3-23. DeltaSOS Mean Annual Simulation Output  
for Alternative 2 Cumulative Conditions

Water Year	Sac Basin Type	SJR Basin Year Type	Added Sac Flow (TAF)	New Sac Flow (TAF)	Required SJR Flow (TAF)	Added SJR Flow (TAF)	New SJR Flow (TAF)	Steam & Sutter Flow (TAF)	DCC Rio Vista Reduction (TAF)	Revised DCC Flow (TAF)	Revised Georgiana & DCC (TAF)	Revised Rio Vista Flow (TAF)	QWEST w/ Initial Export (TAF)
1922	2	1	0	15,237	1,682	0	3,037	4,804	0	949	3,631	11,586	824
1923	3	2	0	14,489	1,663	73	2,564	4,395	0	1,567	4,039	10,425	465
1924	5	5	0	8,586	820	4	1,264	2,261	32	1,115	2,902	5,437	(1,130)
1925	4	3	0	12,064	1,213	29	1,491	3,509	0	1,438	3,630	9,040	(667)
1926	4	4	0	11,614	1,107	0	1,511	3,338	0	1,419	3,554	8,157	(1,037)
1927	1	2	0	19,015	1,585	71	1,963	6,229	0	1,355	4,501	17,527	212
1928	2	3	0	18,455	1,244	30	1,736	6,051	0	1,477	4,542	14,653	(275)
1929	5	5	0	8,696	820	2	1,306	2,314	42	1,147	2,939	5,573	(886)
1930	4	5	0	10,768	816	28	1,168	3,052	0	1,269	3,310	7,368	(1,021)
1931	5	5	0	6,775	790	2	1,257	1,651	91	875	2,453	4,103	(287)
1932	4	2	0	8,618	1,244	0	1,655	2,274	0	1,142	2,924	5,630	308
1933	5	4	0	7,535	1,004	0	1,388	1,931	97	908	2,579	4,753	(326)
1934	5	5	0	8,173	820	4	1,205	2,172	66	916	2,658	5,386	(423)
1935	3	2	0	12,496	1,477	0	2,051	3,700	29	1,301	3,554	9,935	(372)
1936	3	2	0	13,335	1,585	80	2,221	3,996	0	1,365	3,727	10,821	136
1937	3	1	0	12,426	1,682	56	2,860	3,671	0	1,290	3,547	8,936	804
1938	1	1	0	28,179	1,759	0	5,428	9,982	0	1,057	5,533	31,093	5,905
1939	4	4	0	10,712	1,004	0	1,695	3,007	0	1,498	3,498	6,983	(510)
1940	2	2	0	17,638	1,585	78	1,973	5,687	0	1,469	4,408	17,640	100
1941	1	1	0	23,780	1,759	0	3,677	8,157	0	1,370	5,188	27,629	2,950
1942	1	1	0	25,353	1,759	0	2,986	8,822	0	1,151	5,211	25,051	2,793
1943	1	1	0	20,972	1,759	78	3,229	6,984	0	1,426	4,820	17,571	3,269
1944	4	3	0	11,388	1,140	45	1,688	3,253	0	1,423	3,528	7,790	(1,164)
1945	3	2	0	12,566	1,507	77	2,321	3,714	0	1,386	3,653	9,005	(244)
1946	3	2	0	16,177	1,585	74	2,146	5,102	0	1,435	4,178	13,192	(65)
1947	4	4	0	10,949	1,056	50	1,607	3,089	0	1,438	3,480	7,285	(1,585)
1948	3	3	0	13,098	1,140	3	1,421	3,868	0	1,630	3,917	8,948	(1,430)
1949	4	3	0	11,993	1,140	49	1,472	3,503	0	1,421	3,616	8,292	(1,039)
1950	3	3	0	12,811	1,192	0	1,532	3,774	0	1,525	3,793	8,851	(1,161)
1951	2	2	0	21,672	1,663	80	2,663	7,244	0	1,526	5,004	18,363	1,957
1952	1	1	0	28,323	1,759	0	3,023	9,970	0	1,183	5,647	24,889	2,963
1953	1	3	0	18,839	1,295	0	1,965	6,162	0	1,240	4,362	16,711	767
1954	2	3	0	19,873	1,244	29	1,601	6,490	0	1,575	4,778	15,551	(526)
1955	4	4	0	11,447	1,004	0	1,365	3,263	0	1,488	3,587	7,775	(1,416)
1956	1	1	0	21,768	1,759	0	3,270	7,335	0	1,499	5,011	24,852	2,374
1957	2	3	0	15,092	1,244	27	1,812	4,642	0	1,623	4,175	11,044	(740)
1958	1	1	0	26,266	1,759	1	3,397	9,182	0	1,243	5,417	29,612	3,022
1959	3	4	0	14,716	1,159	69	1,800	4,523	0	1,536	4,064	10,754	112
1960	4	5	0	11,339	846	30	1,247	3,228	0	1,455	3,546	7,825	(1,648)
1961	4	5	0	11,459	842	40	1,179	3,280	0	1,434	3,545	7,844	(1,714)
1962	3	3	0	12,372	1,110	45	1,530	3,632	0	1,418	3,656	9,182	(951)
1963	1	2	0	20,611	1,585	0	1,934	6,877	0	1,184	4,566	18,800	(18)
1964	4	4	0	12,397	1,004	3	1,361	3,615	0	1,540	3,756	8,495	(1,369)
1965	1	1	0	19,519	1,759	80	2,404	6,453	0	1,378	4,592	19,247	758
1966	3	3	0	13,901	1,244	49	2,011	4,172	0	1,502	3,913	10,033	(959)
1967	1	1	0	22,181	1,759	0	3,304	7,439	0	1,144	4,729	19,913	1,947
1968	3	4	0	15,971	1,159	49	1,709	5,020	0	1,525	4,226	12,181	706
1969	1	1	0	23,660	1,759	0	5,442	8,066	0	1,543	5,297	23,945	5,690
1970	1	2	0	21,543	1,585	74	3,357	7,316	0	1,506	5,006	24,373	3,752
1971	1	3	0	20,939	1,295	0	1,732	6,908	0	1,583	4,932	16,920	(185)
1972	3	4	0	13,210	1,107	0	1,515	3,920	0	1,524	3,842	9,253	(1,549)
1973	2	2	0	19,810	1,663	78	2,252	6,529	0	1,487	4,717	18,433	995
1974	1	1	0	29,264	1,759	2	2,240	10,392	0	1,580	6,144	30,030	2,138
1975	1	1	0	20,440	1,682	0	2,310	6,784	0	1,674	4,962	16,153	919
1976	5	5	0	10,456	820	9	1,169	2,943	4	1,324	3,307	6,917	(1,263)
1977	5	5	0	6,824	790	0	1,016	1,703	36	821	2,391	4,233	(428)
1978	2	1	0	16,859	1,729	0	2,267	5,405	31	1,187	4,063	15,113	2,171
1979	3	2	0	13,993	1,585	78	2,378	4,235	0	1,449	3,884	10,011	355
1980	2	1	0	18,292	1,759	0	4,818	6,032	0	1,267	4,358	19,356	4,240
1981	4	4	0	13,093	1,159	49	1,962	3,885	0	1,436	3,756	9,162	(436)
1982	1	1	0	29,591	1,759	3	5,389	10,473	0	1,562	6,157	30,065	6,953
1983	1	1	0	35,577	1,759	0	15,726	12,980	0	1,050	6,551	42,561	21,590
1984	1	2	0	23,213	1,585	74	6,524	7,985	0	1,190	4,958	22,157	8,228
1985	4	4	0	13,038	1,107	50	1,909	3,861	0	1,485	3,790	9,191	(591)
1986	1	1	0	18,958	1,682	0	4,814	6,463	0	1,300	4,534	23,167	4,991
1987	4	5	0	10,952	846	16	1,661	3,102	0	1,383	3,437	7,300	(1,270)
1988	5	5	0	9,416	790	6	1,020	2,563	38	1,161	3,048	6,236	(961)
1989	4	5	0	11,782	842	31	1,036	3,442	31	1,324	3,490	8,090	(1,309)
1990	5	5	0	8,675	790	4	944	2,288	52	1,143	2,939	5,561	(812)
1991	5	5	0	8,612	816	37	995	2,286	29	1,072	2,863	5,552	(564)
Average			0	15,998	1,326	26	2,427	5,091	8	1,347	4,090	13,793	887

Notes: Definitions of the categories are provided in Table A2-3 in Appendix A2.

Water-year types: 1=wet, 2=above normal, 3=below normal, 4=dry, 5=critically dry

Negative values shown in parentheses.

Table A3-23. Continued

Water Year	Reduced Export for QWEST (TAF)	Initial Collinsville Outflow (TAF)	Initial Chipps Outflow (TAF)	Required Delta Outflow (TAF)	Revised Montez. Flow (TAF)	Reduced Export for Outflow (TAF)	Export Limits (TAF)	Reduced Export for Limits (TAF)	Net Export Change (TAF)	Adjusted Total Export (TAF)	Revised QWEST Flow (TAF)	Revised Collinsville Outflow (TAF)
1922	0	12,321	11,391	6,103	930	1	8,364	0	1,001	7,185	(177)	11,320
1923	0	10,803	9,917	5,833	886	0	9,521	0	1,021	7,212	(556)	9,782
1924	0	4,180	3,375	4,063	805	3	5,401	0	19	4,561	(1,149)	4,161
1925	0	8,292	7,430	5,195	862	3	7,312	0	246	5,981	(914)	8,045
1926	0	7,022	6,175	5,006	847	3	6,923	0	243	5,976	(1,280)	6,779
1927	0	17,655	16,686	6,980	970	1	10,720	0	1,264	7,506	(1,052)	16,391
1928	0	14,277	13,355	6,665	922	1	10,032	0	1,064	7,391	(1,339)	13,213
1929	0	4,573	3,760	4,418	813	3	5,435	0	19	4,583	(906)	4,553
1930	0	6,245	5,414	5,052	832	3	6,182	0	201	5,210	(1,222)	6,044
1931	0	3,702	2,901	3,657	800	3	4,306	0	14	3,341	(301)	3,688
1932	0	5,849	5,019	5,190	831	1	5,625	0	297	4,444	11	5,553
1933	0	4,313	3,503	4,050	810	3	4,694	0	18	3,696	(344)	4,295
1934	0	4,853	4,038	4,532	815	3	4,803	0	141	3,878	(564)	4,712
1935	0	9,477	8,584	6,455	893	3	7,413	0	348	6,274	(720)	9,129
1936	0	10,877	9,993	6,248	883	3	8,419	0	325	6,478	(189)	10,552
1937	0	9,666	8,791	5,287	874	3	7,752	16	300	6,179	504	9,365
1938	0	36,940	35,736	8,125	1,204	1	18,482	0	2,470	8,697	3,435	34,470
1939	0	6,353	5,520	4,357	833	0	6,865	0	1,055	6,143	(1,565)	5,298
1940	0	17,676	16,697	7,246	979	3	10,409	0	665	7,085	(565)	17,011
1941	0	30,529	29,403	7,010	1,125	1	16,412	0	1,207	7,482	1,744	29,322
1942	0	27,769	26,688	6,671	1,082	0	16,125	0	2,353	8,302	440	25,416
1943	0	20,751	19,767	7,309	984	0	13,363	0	2,208	7,766	1,060	18,543
1944	0	6,521	5,686	4,952	835	3	6,788	0	117	6,045	(1,281)	6,405
1945	0	8,664	7,806	5,277	858	1	7,966	0	557	6,691	(800)	8,108
1946	0	13,020	12,120	6,279	900	1	11,239	0	586	6,876	(651)	12,434
1947	0	5,583	4,756	5,072	827	3	6,751	0	15	6,048	(1,599)	5,568
1948	0	7,409	6,543	5,487	866	3	7,141	0	90	6,390	(1,519)	7,320
1949	0	7,142	6,299	4,921	843	3	6,947	0	223	5,915	(1,262)	6,919
1950	0	7,579	6,725	5,599	854	3	7,295	0	335	6,486	(1,495)	7,244
1951	0	20,237	19,264	6,326	972	0	14,970	0	1,049	7,815	907	19,188
1952	0	27,785	26,665	7,985	1,120	1	15,787	0	1,948	8,875	1,014	25,837
1953	0	17,375	16,419	6,080	956	0	12,676	0	2,158	7,462	(1,391)	15,218
1954	0	14,909	13,968	7,021	940	1	10,339	0	1,743	8,115	(2,269)	13,166
1955	0	6,255	5,422	5,051	834	0	7,342	0	451	6,468	(1,868)	5,804
1956	0	27,158	26,099	6,221	1,058	1	17,795	0	1,022	7,845	1,353	26,136
1957	0	10,196	9,315	5,661	880	2	8,552	0	1,062	7,348	(1,802)	9,133
1958	0	32,590	31,417	7,267	1,173	0	16,086	0	2,260	9,307	761	30,330
1959	0	10,755	9,880	5,294	875	0	8,800	0	1,561	6,737	(1,448)	9,194
1960	0	6,062	5,230	5,203	832	3	6,803	0	159	6,015	(1,807)	5,903
1961	0	6,020	5,189	5,097	831	3	6,750	0	184	5,959	(1,898)	5,836
1962	0	8,134	7,281	5,063	853	3	7,528	0	150	5,947	(1,101)	7,984
1963	0	18,707	17,694	7,329	1,013	0	11,162	0	1,455	8,106	(1,473)	17,252
1964	0	7,008	6,169	5,143	839	1	7,793	0	567	6,481	(1,937)	6,441
1965	0	19,912	18,920	6,670	991	1	14,496	0	621	7,272	137	19,290
1966	0	8,964	8,102	5,602	862	0	8,613	0	895	7,298	(1,855)	8,069
1967	0	21,799	20,750	7,553	1,049	1	13,108	0	2,132	8,997	(185)	19,667
1968	0	12,778	11,884	5,557	894	0	9,256	0	2,683	7,466	(1,977)	10,095
1969	0	29,568	28,445	7,967	1,123	1	16,813	0	2,213	8,643	3,477	27,355
1970	0	28,036	26,997	5,637	1,039	0	18,655	0	2,775	7,806	978	25,261
1971	0	16,639	15,687	7,094	952	1	12,449	0	972	7,785	(1,157)	15,667
1972	0	7,581	6,735	5,409	846	0	7,849	0	863	7,206	(2,412)	6,718
1973	0	19,377	18,410	6,821	966	0	12,919	0	1,223	7,832	(229)	18,153
1974	0	32,083	30,958	6,944	1,126	1	19,746	0	1,800	8,628	338	30,284
1975	0	16,975	16,015	6,627	960	0	10,903	0	2,030	8,523	(1,110)	14,945
1976	0	5,528	4,706	4,416	821	1	6,343	0	532	5,531	(1,795)	4,995
1977	0	3,682	2,882	3,657	800	3	4,264	0	24	3,076	(452)	3,658
1978	0	17,228	16,266	7,933	962	3	10,117	0	1,797	6,304	374	15,431
1979	0	10,275	9,397	5,844	878	1	8,242	0	1,255	7,059	(900)	9,020
1980	0	23,524	22,522	6,568	1,002	1	14,443	15	1,468	7,141	2,772	22,056
1981	0	8,612	7,757	5,109	855	0	7,849	0	1,412	7,000	(1,848)	7,200
1982	0	36,973	35,733	7,099	1,240	1	20,240	0	2,020	9,287	4,933	34,952
1983	0	64,141	62,588	6,197	1,553	0	31,346	0	5,222	10,635	16,369	58,919
1984	0	30,285	29,222	5,676	1,063	0	20,548	0	3,493	8,069	4,735	26,792
1985	0	8,501	7,647	5,068	854	0	8,383	0	893	6,827	(1,484)	7,608
1986	0	28,103	27,051	6,155	1,052	1	14,333	33	859	7,127	4,132	27,245
1987	0	5,913	5,083	4,819	829	2	6,602	0	118	5,926	(1,389)	5,794
1988	0	5,167	4,349	4,505	818	3	5,648	0	209	4,655	(1,170)	4,958
1989	0	6,669	5,825	4,816	844	2	6,313	0	234	5,512	(1,543)	6,435
1990	0	4,640	3,825	4,506	814	3	5,037	0	72	4,137	(884)	4,568
1991	0	4,878	4,062	4,088	816	3	4,808	0	20	3,828	(585)	4,858
Average	0	14,587	13,656	5,802	931	1	10,291	1	1,029	6,741	(142)	13,558

Table A3-23. Continued

Water Year	Available for DW Diversion (TAF)	Delta Storage (TAF)	Delta Storage Diversion (TAF)	Delta Storage Export (TAF)	Delta Outflow (TAF)	Final Total Export (TAF)	Final QWEST Flow (TAF)	Final Delta Outflow (TAF)	3-Mile Slough Flow (TAF)	Old River Diversion (TAF)	Final Antioch Flow (TAF)	Old & Middle Flow (TAF)
1922	276	220	276	232	0	7,417	(453)	11,044	2,843	1,587	2,390	(6,330)
1923	1,512	238	238	252	0	7,464	(794)	9,544	2,679	1,369	1,885	6,589
1924	0	0	0	0	0	4,561	(1,149)	4,161	1,627	825	478	4,395
1925	597	222	241	215	0	6,196	(1,155)	7,804	2,469	852	1,315	5,821
1926	201	186	201	179	0	6,155	(1,481)	6,578	2,366	877	885	(5,816)
1927	1,965	238	274	257	0	7,763	(1,326)	16,118	4,501	1,038	3,175	(7,204)
1928	1,828	0	558	546	0	7,937	(1,896)	12,654	4,010	996	2,113	(7,488)
1929	0	0	0	0	0	4,583	(1,506)	4,553	1,583	851	677	(4,338)
1930	85	86	0	92	0	5,302	(1,307)	5,959	2,127	764	820	(5,098)
1931	0	0	0	0	0	3,341	(301)	3,688	1,051	831	750	(3,120)
1932	0	0	0	0	0	4,444	(1,1)	5,553	1,309	943	1,320	(4,014)
1933	0	0	0	0	0	3,696	(344)	4,295	1,216	853	872	(3,461)
1934	0	0	0	0	0	3,878	(564)	4,712	1,432	805	868	(3,672)
1935	335	238	237	252	0	6,526	(957)	8,892	2,616	1,100	1,659	(5,924)
1936	1,139	238	214	0	0	6,692	(424)	10,317	2,655	1,192	2,231	(5,963)
1937	657	238	218	0	0	6,397	(916)	9,106	2,006	1,494	2,348	(5,348)
1938	7,363	238	225	0	0	8,922	(3,170)	34,205	6,255	3,087	9,424	(6,209)
1939	203	207	204	0	0	6,347	(1,767)	5,096	2,182	995	414	(5,977)
1940	2,041	238	242	227	0	7,312	(1,808)	16,768	4,365	1,046	3,558	(6,668)
1941	5,155	238	234	0	0	7,715	(1,494)	29,072	5,972	2,157	7,468	(5,906)
1942	4,080	238	375	338	0	8,640	(1,599)	25,041	5,819	1,534	5,884	(7,552)
1943	3,664	238	220	0	0	7,986	(1,817)	18,300	3,840	1,611	4,657	(6,873)
1944	0	0	0	0	0	6,045	(1,281)	7,405	2,217	984	936	(5,623)
1945	656	222	241	205	0	6,896	(1,041)	7,867	2,426	1,254	3,384	(6,175)
1946	1,792	238	234	252	0	7,128	(1,885)	12,200	3,353	1,139	2,468	(6,564)
1947	0	0	0	0	0	6,048	(1,599)	5,568	2,199	958	600	(5,902)
1948	254	238	233	221	0	6,390	(1,636)	6,685	2,562	806	1,043	(6,165)
1949	21	22	21	22	0	6,507	(1,495)	2,402	842	906	5,884	(5,623)
1950	4,502	238	244	216	0	8,031	(1,517)	7,223	2,539	866	1,022	(6,230)
1951	4,681	238	303	225	0	7,100	(663)	18,943	4,073	1,430	4,736	(7,075)
1952	1,917	238	299	0	0	7,821	(1,690)	25,534	5,579	1,548	6,290	(7,962)
1953	1,497	238	419	397	0	8,512	(2,688)	12,747	4,425	1,084	2,735	(7,293)
1954	319	238	234	252	0	6,720	(2,102)	5,570	4,468	908	1,780	(8,212)
1955	4,549	238	258	281	0	8,076	(2,163)	25,878	5,450	1,711	6,436	(6,436)
1956	209	361	347	0	0	7,695	(8,773)	3,252	5,457	964	1,090	(7,310)
1957	361	238	271	225	0	9,532	(1,491)	30,060	6,749	2,019	7,240	(7,832)
1958	5,034	238	427	434	0	6,015	(1,875)	8,768	3,094	997	1,220	(6,766)
1959	1,192	0	41	37	0	5,997	(1,942)	5,903	2,390	802	583	(5,820)
1960	45	222	241	215	0	6,162	(1,342)	5,791	2,437	763	495	(5,804)
1961	679	238	591	541	0	8,647	(2,064)	16,661	2,561	5,296	8,071	(6,717)
1962	2,087	238	474	477	0	6,958	(2,411)	5,967	2,736	325	325	(6,724)
1963	756	238	361	347	0	7,593	(1,99)	18,954	4,549	1,246	4,350	(6,866)
1964	2,633	336	320	0	0	7,638	(2,189)	7,735	3,025	1,110	836	(5,820)
1965	726	334	340	0	0	9,215	(457)	19,395	4,785	1,729	4,928	(7,877)
1966	3,091	238	272	218	0	7,872	(2,399)	9,673	3,591	943	7,509	(6,177)
1967	1,224	238	406	420	0	8,863	(3,077)	26,955	4,618	3,097	7,694	(6,177)
1968	5,106	238	98	209	0	8,015	(879)	25,163	5,406	1,632	6,285	(6,885)
1969	4,599	238	462	449	0	8,234	(1,619)	6,642	4,451	993	2,833	(7,015)
1970	2,192	78	74	0	0	7,281	(2,488)	17,910	4,445	1,202	3,973	(7,198)
1971	76	238	244	223	0	8,856	(8,055)	30,032	6,973	1,154	7,694	(6,177)
1972	3,239	238	252	228	0	8,830	(1,454)	14,602	4,221	1,176	2,767	(6,885)
1973	5,060	238	343	307	0	5,659	(1,926)	4,864	2,216	755	290	(5,563)
1974	1,805	131	128	0	0	3,076	(452)	3,658	1,128	676	676	(3,050)
1975	271	0	0	0	0	6,532	(131)	15,188	3,482	1,158	3,613	(5,751)
1976	1,131	0	0	0	0	7,277	(1,135)	8,785	2,689	1,220	1,554	(6,566)
1977	0	0	0	0	0	7,361	(2,533)	21,817	3,718	2,567	6,226	(5,226)
1978	2,136	238	243	228	0	8,055	(472)	6,967	4,221	1,176	2,767	(6,779)
1979	4,574	238	239	220	0	8,656	(86)	30,032	6,973	1,154	2,767	(6,885)
1980	238	239	248	247	0	7,247	(2,081)	15,205	4,451	902	449	(7,015)
1981	7,154	238	492	492	0	9,512	(4,441)	6,642	2,937	1,202	3,973	(7,198)
1982	19,189	238	41	0	0	10,676	(1,627)	16,271	5,821	4,822	1,554	(6,566)
1983	7,824	11	208	0	0	8,277	(8,277)	26,780	3,685	1,220	2,767	(5,226)
1984	1,001	242	238	0	0	7,965	(1,726)	7,366	2,683	1,103	2,766	(5,226)
1985	5,489	238	223	0	0	7,349	(3,873)	26,985	4,187	1,059	2,766	(5,226)
1986	1,877	218	231	0	0	5,926	(1,389)	5,794	2,137	919	748	(4,956)
1987	218	231	486	486	0	5,526	(1,388)	4,889	2,377	685	501	(4,648)
1988	24	231	14	0	0	4,137	(1,567)	6,411	2,377	646	810	(4,395)
1989	24	231	0	0	0	3,828	(884)	4,568	1,573	633	890	(4,095)
1990	0	0	0	0	0	(585)	4,858	1,477	634	893	3,792	(6,087)
Average	1,996	173	211	197	0	6,938	(353)	13,347	3,326	1,369	2,973	(6,087)

Table A3-24. Monthly Percentiles for DeltaSOS Simulations  
for Alternative 2 Cumulative Conditions

DW diversion (cfs)

Percentile	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	15	30	0	0	0	0	0	0
60	0	0	0	0	15	31	0	0	0	0	0	0
70	0	0	0	13	15	31	49	0	0	0	0	0
80	0	517	1,260	1,676	31	49	76	0	0	0	0	0
90	1,815	4,000	3,871	3,871	2,899	307	76	99	0	0	0	0
100	3,871	4,000	3,871	3,871	4,000	3,871	2,795	1,791	118	130	0	3,888
Mean	415	613	644	811	501	226	111	41	8	2	0	123

DW storage (TAF)

Percentile	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
0	0	0	(0)	0	(0)	(0)	(0)	(0)	(0)	(0)	(0)	0
10	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0
40	0	0	0	0	14	0	0	0	0	0	0	0
50	0	0	0	238	56	0	9	0	0	0	0	0
60	0	0	0	238	222	121	169	99	0	0	0	0
70	0	86	238	238	238	230	169	0	0	0	0	0
80	0	150	238	238	238	234	227	18	0	0	0	0
90	203	238	238	238	238	238	190	0	0	0	0	0
100	238	238	238	238	238	238	238	189	0	0	0	0
Mean	35	62	86	129	120	100	88	37	5	3	0	10

DW discharge for export (cfs)

Percentile	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	52	0	0	0	0	0
80	0	0	0	0	360	508	67	2,152	0	0	0	0
90	0	0	1,387	0	3,840	2,726	139	664	3,414	2,268	0	0
100	0	0	2,543	3,858	2,703	4,000	3,822	562	3,698	3,882	3,741	1,379
Mean	0	160	254	90	651	507	45	212	817	500	29	0

DW discharge for outflow (cfs)

Percentile	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0
80	0	0	0	0	0	0	0	0	0	0	0	0
90	0	0	0	0	0	0	0	0	0	0	0	0
100	0	0	0	0	0	0	0	0	0	0	0	0
Mean	0	0	0	0	0	0	0	0	0	0	0	0

Final CVP Tracy and SWP Banks exports (cfs)

Percentile	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
0	4,278	3,314	5,051	4,859	6,075	3,220	2,842	2,455	1,145	1,836	597	3,296
10	5,115	5,373	7,347	8,701	6,836	4,706	3,622	3,174	5,500	4,447	3,508	3,617
20	6,844	6,844	7,821	10,950	8,462	6,276	3,840	3,598	5,568	6,832	4,790	5,915
30	7,982	7,360	9,901	11,590	10,331	9,000	4,240	4,033	5,804	8,143	5,143	6,076
40	8,490	8,371	11,134	14,147	13,939	11,285	5,623	4,976	6,267	9,710	5,924	6,384
50	9,045	10,658	12,749	14,500	13,755	6,573	5,858	6,976	11,365	6,699	6,543	
60	9,700	13,308	14,106	14,500	14,500	7,380	7,176	7,467	11,365	7,367	6,710	
70	11,911	14,900	14,500	14,500	14,500	8,921	8,416	9,632	11,366	8,026	7,434	
80	14,542	14,900	14,500	14,500	14,500	10,960	9,437	10,590	11,366	9,675	10,087	
90	14,900	14,900	14,500	14,500	14,500	11,760	11,760	14,900	11,367	11,347	14,029	
100	14,900	14,900	14,500	14,500	14,500	14,900	14,900	14,900	14,900	14,900	14,900	
Mean	9,962	10,577	11,723	12,852	12,324	11,268	7,284	6,842	8,164	9,603	6,979	7,575

Table A3-25a. DeltaSOS—Simulated DW Operations to Storage (cfs)  
for Alternative 3 Cumulative Conditions: DW Diversions to Storage

Water Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total (TAF)
1922	0				2,790	0	0	1,791	0				276
1923	677	0	692	0	5,332	29	0	0	0	0	0	0	405
1924	0		0		0	0	0	0	0	0	0	0	0
1925	0		0		0	0	0	0	0	0	0	0	362
1926	1,927	0	517	0	6,000	0	0	0	0	0	0	0	452
1927	5,648	0	3,383	0	3,343	729	98	151	0	0	0	0	733
1928	0		0		0	0	0	0	0	0	0	0	0
1929	1,929	0	0		0	0	0	0	0	0	0	0	85
1930	1,930	0	0		0	0	0	0	0	0	0	0	0
1931	1,931	0	0		0	0	0	0	0	0	0	0	0
1932	1,932	0	0		0	0	0	0	0	0	0	0	0
1933	1,933	0	0		0	0	0	0	0	0	0	0	0
1934	1,934	0	0		0	0	0	0	0	0	0	0	0
1935	1,935	0	0		5,499	0	0	0	0	0	0	0	335
1936	1,936	0	0		6,000	704	0	0	0	0	0	0	404
1937	1,937	0	0		6,000	0	1,281	0	0	0	0	0	439
1938	1,938	0	6,000	822	29	61	98	151	0	198	0	0	458
1939	3,364	0	0	0	0	0	0	0	0	0	0	0	203
1940	1,940	0	0		4,529	2,276	98	151	0	0	0	0	425
1941	1,941	0	0		6,000	632	61	98	151	0	0	0	430
1942	1,942	1,815	675	4,210	29	61	0	2,256	0	0	0	0	545
1943	1,943	2,847	2,827	1,095	29	61	98	0	0	0	0	0	419
1944	1,944	0	0	0	0	0	0	0	0	0	0	0	0
1945	1,945	0	0	0	6,000	632	0	0	0	0	0	0	362
1946	1,946	0	0	0	0	0	0	0	0	0	0	0	400
1947	1,947	0	0	0	0	0	0	0	0	0	0	0	0
1948	1,948	0	0	0	0	0	0	0	0	0	0	0	0
1949	1,949	0	0	0	0	0	0	0	0	0	0	0	0
1950	1,950	0	0	0	353	0	0	0	0	0	0	0	254
1951	1,951	0	6,000	822	29	61	0	0	0	0	0	0	21
1952	1,952	0	0	6,000	632	59	98	151	0	198	0	0	417
1953	1,953	2,853	0	4,914	29	0	0	0	0	0	0	0	470
1954	1,954	0	2,926	0	6,000	729	98	151	0	0	0	0	597
1955	1,955	0	0	3,898	1,397	0	0	0	0	0	0	0	319
1956	1,956	0	0	6,000	632	59	98	0	0	0	0	0	438
1957	1,957	2,486	0	0	528	2,975	0	0	0	0	0	0	361
1958	1,958	0	3,178	0	4,523	6,000	51	151	0	198	0	0	458
1959	1,959	0	0	0	0	729	0	0	0	0	0	0	597
1960	1,960	0	0	0	0	741	0	0	0	0	0	0	0
1961	1,961	0	0	0	0	6,000	0	0	0	0	0	0	45
1962	1,962	0	0	0	0	0	741	0	0	0	0	0	362
1963	1,963	6,000	0	881	0	4,970	0	0	0	0	0	0	769
1964	1,964	0	6,000	0	6,000	632	0	0	0	0	0	0	661
1965	1,965	0	4,949	0	3,390	0	0	0	0	0	0	0	502
1966	1,966	0	0	6,000	632	61	98	151	0	198	0	0	502
1967	1,967	0	3,106	0	6,000	704	0	0	0	0	0	0	259
1968	1,968	0	0	2,209	29	61	98	0	0	0	0	0	460
1969	1,969	4,286	50	2,459	4,249	29	0	4,951	0	0	0	0	591
1970	1,970	0	0	4,423	4,423	61	98	151	0	198	0	0	2,504
1971	1,971	0	0	2,209	29	0	0	0	0	0	0	0	274
1972	1,972	0	0	1,260	0	704	0	0	0	0	0	0	76
1973	1,973	0	2,082	4,614	29	61	98	0	0	0	0	0	415
1974	1,974	0	6,000	822	29	61	98	151	0	0	0	0	431
1975	1,975	1,388	409	0	6,000	0	1,281	0	0	0	0	0	522
1976	1,976	1,768	0	0	0	0	0	0	0	0	0	0	131
1977	1,977	0	0	0	0	0	0	0	0	0	0	0	0
1978	1,978	0	0	0	0	0	0	0	0	0	0	0	0
1979	1,979	0	0	0	0	0	0	0	0	0	0	0	0
1980	1,980	0	0	0	0	0	0	0	0	0	0	0	0
1981	1,981	0	0	0	0	0	0	0	0	0	0	0	0
1982	1,982	0	0	0	0	0	0	0	0	0	0	0	0
1983	1,983	2,946	50	822	26	29	61	98	151	198	0	0	235
1984	1,984	106	50	26	29	59	98	0	0	0	0	0	260
1985	1,985	0	6,000	822	0	6,000	1,739	59	98	0	0	0	3,888
1986	1,986	0	0	0	0	0	5,088	5,793	0	0	0	0	1,064
1987	1,987	0	0	0	0	0	4,492	0	0	0	0	0	678
1988	1,988	0	0	0	0	0	0	1,281	0	0	0	0	218
1989	1,989	0	0	0	0	0	0	0	0	0	0	0	24
1990	1,990	0	0	0	0	0	0	0	0	0	0	0	0
1991	1,991	0	0	0	0	0	0	0	0	0	0	0	0
Average	526	848	1,117	1,295	796	305	127	55	17	4	0	125	314

Table A3-25b. DeltaSOS—Simulated DW Operations for Alternative 3 Cumulative Conditions: DW Discharge to Export Wheeling (cfs)

Water Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Total (TAF)
1922	0	0	0	0	0	0	0	0	89	2,787	0	0	204
1923	0	0	0	0	0	0	0	0	0	0	0	0	424
1924	0	0	0	0	0	0	0	0	0	0	0	0	0
1925	0	0	0	0	0	0	0	0	0	0	0	0	321
1926	0	0	0	0	0	0	0	0	0	0	0	0	176
1927	0	0	474	0	0	0	0	0	0	0	0	0	397
1928	0	2,191	0	0	0	0	0	0	0	0	0	0	698
1929	0	0	0	0	0	0	0	0	0	0	0	0	0
1930	0	0	0	0	0	0	0	0	0	0	0	0	0
1931	0	0	0	0	0	0	0	0	0	0	0	0	0
1932	0	0	0	0	0	0	0	0	0	0	0	0	0
1933	0	0	0	0	0	0	0	0	0	0	0	0	0
1934	0	0	0	0	0	0	0	0	0	0	0	0	0
1935	0	0	0	0	0	0	0	0	0	0	0	0	0
1936	0	0	0	0	0	0	0	0	0	0	0	0	0
1937	0	0	0	0	0	0	0	0	0	0	0	0	0
1938	0	0	0	0	0	0	0	0	0	0	0	0	0
1939	0	1,701	0	1,643	0	0	0	0	0	0	0	0	0
1940	0	0	0	0	0	0	0	0	0	0	0	0	0
1941	0	0	0	0	0	0	0	0	0	0	0	0	0
1942	0	0	0	0	0	0	0	0	0	0	0	0	0
1943	0	0	0	0	0	0	0	0	0	0	0	0	0
1944	0	0	0	0	0	0	0	0	0	0	0	0	0
1945	0	0	0	0	0	0	0	0	0	0	0	0	0
1946	0	0	0	0	0	0	0	0	0	0	0	0	0
1947	0	0	0	0	0	0	0	0	0	0	0	0	0
1948	0	0	0	0	0	0	0	0	0	0	0	0	0
1949	0	0	0	0	0	0	0	0	0	0	0	0	0
1950	0	0	0	0	0	0	0	0	0	0	0	0	0
1951	0	0	0	0	0	0	0	0	0	0	0	0	0
1952	0	0	0	0	0	0	0	0	0	0	0	0	0
1953	0	1,795	0	2,806	0	0	0	0	0	0	0	0	0
1954	0	0	0	0	0	0	0	0	0	0	0	0	0
1955	0	0	0	0	0	0	0	0	0	0	0	0	0
1956	0	2,518	0	0	0	0	0	0	0	0	0	0	0
1957	0	0	0	0	0	0	0	0	0	0	0	0	0
1958	0	0	0	0	0	0	0	0	0	0	0	0	0
1959	0	1,990	0	1,296	0	0	0	0	0	0	0	0	0
1960	0	0	0	0	0	0	0	0	0	0	0	0	0
1961	0	0	0	0	0	0	0	0	0	0	0	0	0
1962	0	0	0	0	0	0	0	0	0	0	0	0	0
1963	0	210	0	2,576	0	0	0	0	0	0	0	0	0
1964	0	0	0	0	0	0	0	0	0	0	0	0	0
1965	0	0	0	0	0	0	0	0	0	0	0	0	0
1966	0	0	0	0	0	0	0	0	0	0	0	0	0
1967	0	0	0	0	0	0	0	0	0	0	0	0	0
1968	0	1,700	0	1,530	0	0	0	0	0	0	0	0	0
1969	0	0	0	0	0	0	0	0	0	0	0	0	0
1970	0	0	0	0	0	0	0	0	0	0	0	0	0
1971	0	0	0	0	0	0	0	0	0	0	0	0	0
1972	0	0	0	0	0	0	0	0	0	0	0	0	0
1973	0	0	0	0	0	0	0	0	0	0	0	0	0
1974	0	0	0	0	0	0	0	0	0	0	0	0	0
1975	0	0	0	0	0	0	0	0	0	0	0	0	0
1976	0	0	0	0	0	0	0	0	0	0	0	0	0
1977	0	0	0	0	0	0	0	0	0	0	0	0	0
1978	0	0	0	0	0	0	0	0	0	0	0	0	0
1979	0	0	0	0	0	0	0	0	0	0	0	0	0
1980	0	0	0	0	0	0	0	0	0	0	0	0	0
1981	0	0	0	0	0	0	0	0	0	0	0	0	0
1982	0	0	0	0	0	0	0	0	0	0	0	0	0
1983	0	0	0	0	0	0	0	0	0	0	0	0	0
1984	0	0	0	0	0	0	0	0	0	0	0	0	0
1985	0	0	0	0	0	0	0	0	0	0	0	0	0
1986	0	0	0	0	0	0	0	0	0	0	0	0	0
1987	0	0	0	0	0	0	0	0	0	0	0	0	0
1988	0	0	0	0	0	0	0	0	0	0	0	0	0
1989	0	0	0	0	0	0	0	0	0	0	0	0	0
1990	0	0	0	0	0	0	0	0	0	0	0	0	0
1991	0	0	0	0	0	0	0	0	0	0	0	0	0
Average	0	159	255	90	841	732	61	204	1,352	861	127	0	282

Table A3-25c. DeltaSOS-Simulated DW Operations  
for Alternative 3 Cumulative Conditions: DW End-of-Month Storage (TAF)

Water Year	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1922	0	0	0	0	155	118	109	207	187	0	0	0
1923	42	80	406	406	69	(0)	0	0	0	0	0	0
1924	0	0	0	0	0	0	0	0	0	0	0	0
1925	0	0	0	0	333	186	406	406	394	23	0	0
1926	0	0	0	0	(0)	220	406	397	364	(0)	0	0
1927	31	200	406	0	0	0	0	0	0	0	0	0
1928	336	0	0	86	(0)	0	0	0	0	0	0	0
1929	0	0	0	0	0	0	0	0	0	0	0	0
1930	0	0	0	0	0	0	0	0	0	0	0	0
1931	0	0	0	0	0	0	0	0	0	0	0	0
1932	0	0	0	0	0	0	0	0	0	0	0	0
1933	0	0	0	0	0	0	0	0	0	0	0	0
1934	0	0	0	0	0	0	0	0	0	0	0	0
1935	0	0	0	0	338	2	0	4	0	0	0	0
1936	0	0	0	0	369	406	231	222	185	0	0	0
1937	0	0	0	0	0	333	406	397	234	(0)	0	0
1938	207	357	406	0	406	406	406	406	406	406	0	0
1939	0	103	(0)	0	279	406	406	406	368	35	274	(0)
1940	0	0	0	0	0	0	0	0	0	0	0	0
1941	112	149	406	406	406	205	330	318	0	0	0	0
1942	175	340	406	406	406	397	0	295	0	0	0	0
1943	0	0	0	0	0	0	0	0	0	0	0	0
1944	0	0	0	0	333	155	113	61	47	0	0	0
1945	0	0	0	0	406	69	(0)	0	0	0	0	0
1946	1949	0	0	0	0	0	0	0	0	0	0	0
1947	1948	0	0	0	0	0	0	0	0	0	0	0
1948	1949	0	0	0	0	0	0	0	0	0	0	0
1949	1950	0	0	0	0	22	(0)	0	0	0	0	0
1950	1951	0	357	406	406	284	266	253	0	0	0	0
1951	1952	0	369	406	406	406	406	406	406	406	21	0
1952	1953	215	105	406	189	(0)	0	0	0	0	0	0
1953	1954	0	174	(0)	369	406	406	375	4	0	0	0
1954	1955	0	0	240	324	40	0	0	0	0	0	0
1955	1956	0	0	369	406	406	388	406	288	0	0	0
1956	1957	153	0	0	0	29	206	165	153	406	21	0
1957	1958	0	0	278	406	406	406	406	406	406	0	0
1958	1959	203	81	0	369	406	31	0	0	0	0	0
1959	1960	0	0	0	0	0	0	0	0	0	0	0
1960	1961	0	0	0	0	41	0	0	0	0	0	0
1961	1962	0	0	0	0	62	(0)	0	0	0	0	0
1962	1963	369	353	406	246	52	(0)	101	49	0	0	0
1963	1964	0	357	96	406	362	(0)	0	0	0	0	0
1964	1965	0	0	369	406	362	(0)	0	0	0	0	0
1965	1966	0	294	199	406	216	(0)	0	0	0	0	0
1966	1967	0	0	369	406	406	406	406	406	256	44	(0)
1967	1968	200	96	0	369	406	382	350	286	272	72	0
1968	1969	0	0	136	406	406	406	315	301	351	149	0
1969	1970	406	406	406	406	406	366	377	363	134	0	0
1970	1971	0	146	406	406	101	399	389	0	0	0	0
1971	1972	0	0	77	14	(0)	0	0	0	0	0	0
1972	1973	0	124	406	406	406	397	385	14	0	0	0
1973	1974	0	357	406	406	406	406	394	23	0	0	0
1974	1975	85	9	0	0	369	406	397	385	105	0	0
1975	1976	109	130	0	0	0	0	0	0	0	0	0
1976	1977	0	0	0	0	0	0	0	0	0	0	0
1977	1978	0	0	0	0	313	406	327	318	306	19	(0)
1978	1979	0	0	0	0	406	406	364	257	0	0	0
1979	1980	0	0	52	406	406	406	0	0	0	0	0
1980	1981	0	0	276	93	(0)	0	0	0	0	0	0
1981	1982	0	357	406	406	406	406	406	406	406	53	(0)
1982	1983	0	406	406	406	406	406	389	344	0	0	0
1983	1984	406	406	406	406	406	406	397	200	0	0	0
1984	1985	0	357	406	406	333	406	397	200	0	0	0
1985	1986	0	0	0	0	(0)	0	0	0	0	0	0
1986	1987	0	0	223	0	0	0	0	0	0	0	0
1987	1988	0	0	0	0	25	0	0	0	0	0	0
1988	1989	0	0	0	0	0	0	0	0	0	0	0
1989	1990	0	0	0	0	0	0	0	0	0	0	0
1990	1991	0	0	0	0	0	0	0	0	0	0	0
Average	44	84	137	210	205	175	174	159	72	15	5	12

Table A3-26. DeltaSOS Mean Annual Simulation Output  
for Alternative 3 Cumulative Conditions

Water Year	Sac Basin Year Type	SJR Basin Year Type	Added Sac Flow (TAF)	New Sac Flow (TAF)	Required SJR Flow (TAF)	Added SJR Flow (TAF)	New SJR Flow (TAF)	Steam & Sutter Flow (TAF)	DCC Rio Vista Reduction (TAF)	Revised DCC Flow (TAF)	Revised Georgiana & DCC (TAF)	Revised Rio Vista Flow (TAF)	QWEST w/ Initial Export (TAF)
1922	2	1	0	15,237	1,682	0	3,037	4,804	0	949	3,631	11,586	850
1923	3	2	0	14,489	1,663	73	2,564	4,395	0	1,567	4,039	10,425	491
1924	5	5	0	8,586	820	4	1,264	2,261	32	1,115	2,902	5,437	(1,104)
1925	4	3	0	12,064	1,213	29	1,491	3,509	0	1,438	3,630	9,040	(642)
1926	4	4	0	11,614	1,107	0	1,511	3,338	0	1,419	3,554	8,157	(1,011)
1927	1	2	0	19,015	1,585	71	1,963	6,229	0	1,355	4,501	17,527	238
1928	2	3	0	18,455	1,244	30	1,736	6,051	0	1,477	4,542	14,653	(250)
1929	5	5	0	8,696	820	2	1,306	2,314	42	1,147	2,939	5,573	(861)
1930	4	5	0	10,768	816	28	1,168	3,052	0	1,269	3,310	7,368	(995)
1931	5	5	0	6,775	790	2	1,257	1,651	91	875	2,453	4,103	(261)
1932	4	2	0	8,618	1,244	0	1,655	2,274	0	1,142	2,924	5,630	334
1933	5	4	0	7,535	1,004	0	1,388	1,931	97	908	2,579	4,753	(300)
1934	5	5	0	8,173	820	4	1,205	2,172	66	916	2,658	5,386	(397)
1935	3	2	0	12,496	1,477	0	2,051	3,700	29	1,301	3,554	9,935	(346)
1936	3	2	0	13,335	1,585	80	2,221	3,996	0	1,365	3,727	10,821	161
1937	3	1	0	12,426	1,682	56	2,860	3,671	0	1,290	3,547	8,936	830
1938	1	1	0	28,179	1,759	0	5,428	9,982	0	1,057	5,533	31,093	5,930
1939	4	4	0	10,712	1,004	0	1,695	3,007	0	1,498	3,498	6,983	(484)
1940	2	2	0	17,638	1,585	78	1,973	5,687	0	1,469	4,408	17,640	126
1941	1	1	0	23,780	1,759	0	3,677	8,157	0	1,370	5,188	27,629	2,976
1942	1	1	0	25,353	1,759	0	2,986	8,822	0	1,151	5,211	25,051	2,819
1943	1	1	0	20,972	1,759	78	3,229	6,984	0	1,426	4,820	17,571	3,294
1944	4	3	0	11,388	1,140	45	1,688	3,253	0	1,423	3,528	7,790	(1,138)
1945	3	2	0	12,566	1,507	77	2,321	3,714	0	1,386	3,653	9,005	(218)
1946	3	2	0	16,177	1,585	74	2,146	5,102	0	1,435	4,178	13,192	(39)
1947	4	4	0	10,949	1,056	50	1,607	3,089	0	1,438	3,480	7,285	(1,559)
1948	3	3	0	18,098	1,140	3	1,421	3,868	0	1,630	3,917	8,948	(1,404)
1949	4	3	0	11,993	1,140	49	1,472	3,503	0	1,421	3,616	8,292	(1,013)
1950	3	3	0	12,811	1,192	0	1,532	3,774	0	1,525	3,793	8,851	(1,135)
1951	2	2	0	21,672	1,663	80	2,663	7,244	0	1,526	5,004	18,363	1,983
1952	1	1	0	28,323	1,759	0	3,023	9,970	0	1,183	5,647	24,889	2,988
1953	1	3	0	18,839	1,295	0	1,965	6,162	0	1,240	4,362	16,711	792
1954	2	3	0	19,873	1,244	29	1,601	6,490	0	1,575	4,778	15,551	(501)
1955	4	4	0	11,447	1,004	0	1,365	3,263	0	1,488	3,587	7,775	(1,391)
1956	1	1	0	21,768	1,759	0	3,270	7,335	0	1,499	5,011	24,852	2,400
1957	2	3	0	15,092	1,244	27	1,812	4,642	0	1,623	4,175	11,044	(714)
1958	1	1	0	26,266	1,759	1	3,397	9,182	0	1,243	5,417	29,612	3,048
1959	3	4	0	14,716	1,159	69	1,800	4,523	0	1,536	4,064	10,754	138
1960	4	5	0	11,339	846	30	1,247	3,228	0	1,455	3,546	7,825	(1,622)
1961	4	5	0	11,459	842	40	1,179	3,280	0	1,434	3,545	7,844	(1,688)
1962	3	3	0	12,372	1,110	45	1,530	3,632	0	1,418	3,656	9,182	(925)
1963	1	2	0	20,611	1,585	0	1,934	6,877	0	1,184	4,566	18,800	7
1964	4	4	0	12,397	1,004	3	1,361	3,615	0	1,540	3,756	8,495	(1,343)
1965	1	1	0	19,519	1,759	80	2,404	6,453	0	1,378	4,592	19,247	784
1966	3	3	0	13,901	1,192	49	2,011	4,172	0	1,502	3,913	10,033	(934)
1967	1	1	0	22,181	1,759	0	3,304	7,439	0	1,144	4,729	19,913	1,973
1968	3	4	0	15,971	1,159	49	1,709	5,020	0	1,525	4,226	12,181	732
1969	1	1	0	23,660	1,759	0	5,442	8,066	0	1,543	5,297	23,945	5,716
1970	1	2	0	21,543	1,585	74	3,357	7,316	0	1,506	5,006	24,373	3,778
1971	1	3	0	20,939	1,295	0	1,732	6,908	0	1,583	4,932	16,920	(159)
1972	3	4	0	13,210	1,107	0	1,515	3,920	0	1,524	3,842	9,253	(1,523)
1973	2	2	0	19,810	1,663	78	2,252	6,529	0	1,487	4,717	18,433	1,021
1974	1	1	0	29,264	1,759	2	2,240	10,392	0	1,580	6,144	30,030	2,164
1975	1	1	0	20,440	1,682	0	2,310	6,784	0	1,674	4,962	16,153	945
1976	5	5	0	10,456	820	9	1,169	2,943	4	1,324	3,307	6,917	(1,237)
1977	5	5	0	6,824	790	0	1,016	1,703	36	821	2,391	4,233	(402)
1978	2	1	0	16,859	1,729	0	2,267	5,405	31	1,187	4,063	15,113	2,197
1979	3	2	0	13,993	1,585	78	2,378	4,235	0	1,449	3,884	10,011	381
1980	2	1	0	18,292	1,759	0	4,818	6,032	0	1,267	4,358	19,356	4,265
1981	4	4	0	13,093	1,159	49	1,962	3,885	0	1,436	3,756	9,162	(410)
1982	1	1	0	29,591	1,759	3	5,389	10,473	0	1,562	6,157	30,065	6,979
1983	1	1	0	35,577	1,759	0	15,726	12,980	0	1,050	6,551	42,561	21,616
1984	1	2	0	23,213	1,585	74	6,524	7,985	0	1,190	4,958	22,157	8,253
1985	4	4	0	13,038	1,107	50	1,909	3,861	0	1,485	3,790	9,191	(565)
1986	1	1	0	18,958	1,682	0	4,814	6,463	0	1,300	4,534	23,167	5,017
1987	4	5	0	10,952	846	16	1,661	3,102	0	1,383	3,437	7,300	(1,245)
1988	5	5	0	9,416	790	6	1,020	2,563	38	1,161	3,048	6,236	(935)
1989	4	5	0	11,782	842	31	1,036	3,442	31	1,324	3,490	8,090	(1,283)
1990	5	5	0	8,675	790	4	944	2,288	52	1,143	2,939	5,561	(786)
1991	5	5	0	8,612	816	37	995	2,286	29	1,072	2,863	5,552	(538)
Average			0	15,998	1,325	26	2,427	5,091	8	1,347	4,090	13,793	912

Notes: Definitions of the categories are provided in Table A2-3 in Appendix A2.

Water-year types: 1=wet, 2=above normal, 3=below normal, 4=dry, 5=critically dry  
Negative values shown in parentheses.

Table A3-26. Continued

Water Year	Reduced Export for QWEST (TAF)	Initial Collinsville Outflow (TAF)	Initial Chippewa Delta Outflow (TAF)	Required Montezuma Flow (TAF)	Revised Export Outflow (TAF)	Reduced Export for Limits (TAF)	Reduced Export for Limits (TAF)	Net Export Change (TAF)	Adjusted Total Export (TAF)	Revised QWEST Flow (TAF)	Revised Collinsville Outflow (TAF)
1922	0	12,347	11,416	6,103	931	0	8,364	0	1,016	7,201	(167)
1923	0	10,829	9,942	5,833	887	0	9,521	0	1,036	7,227	(545)
1924	0	4,206	3,401	4,063	805	0	5,401	0	40	4,582	(1,144)
1925	0	8,317	7,456	5,195	862	0	7,312	0	268	6,003	(910)
1926	0	7,048	6,200	5,006	847	0	6,923	0	263	5,997	(1,274)
1927	0	17,681	16,711	6,980	970	0	10,720	0	1,283	7,526	(1,045)
1928	0	14,303	13,380	6,665	1429	0	10,032	0	1,083	7,411	(1,333)
1929	0	4,598	3,785	4,418	813	0	5,435	0	40	4,604	(901)
1930	0	6,271	5,439	5,052	832	0	6,182	0	223	5,232	(1,218)
1931	0	3,728	2,927	3,657	801	0	4,306	0	36	3,363	(297)
1932	0	5,875	5,044	5,190	831	0	5,625	0	319	5,556	(1,329)
1933	0	4,339	3,528	4,050	811	0	4,694	0	44	3,722	(344)
1934	0	4,879	4,064	4,532	816	0	4,803	0	164	3,900	(560)
1935	0	9,503	8,610	6,455	894	0	7,413	0	369	6,294	(715)
1936	0	10,902	10,019	6,248	884	0	8,419	0	345	6,499	(184)
1937	0	9,691	8,817	5,287	875	0	7,752	0	16	508	9,369
1938	0	36,966	35,761	8,125	1,205	0	18,482	0	322	8,710	3,447
1939	0	6,379	5,545	4,357	833	0	6,865	0	1,071	6,160	(1,556)
1940	0	17,702	16,722	7,246	979	0	10,409	0	164	3,900	(4,716)
1941	0	30,554	29,429	7,010	1,126	0	16,412	0	7,109	7,109	9,134
1942	0	27,795	26,713	6,671	1,082	0	16,125	0	1,223	7,497	29,332
1943	0	20,777	19,793	7,309	1,082	0	16,125	0	2,363	8,313	12,443
1944	0	6,547	5,712	4,952	835	0	13,363	0	2,225	7,783	(1,572)
1945	0	8,690	7,832	5,277	858	0	7,966	0	575	6,709	(642)
1946	0	13,046	12,145	6,279	900	0	11,239	0	603	6,893	(1,596)
1947	0	5,609	4,781	5,072	828	0	6,751	0	37	6,070	(1,512)
1948	0	7,435	6,569	5,487	866	0	7,141	0	244	5,936	(1,257)
1949	0	7,168	6,324	4,921	844	0	6,947	0	138	6,067	(1,277)
1950	0	7,605	6,751	5,599	854	0	7,295	0	355	6,506	(1,490)
1951	0	20,263	19,290	6,326	973	0	14,970	0	1,066	7,832	(793)
1952	0	27,811	26,691	7,985	1,120	0	15,787	0	1,082	8,888	(1,754)
1953	0	17,401	16,445	6,080	956	0	12,676	0	2,169	7,473	(1,376)
1954	0	14,935	13,994	7,021	941	0	10,339	0	1,761	8,134	(2,262)
1955	0	6,281	5,447	5,551	834	0	7,342	0	1,464	6,752	(1,327)
1956	0	27,183	26,125	6,221	881	0	17,795	0	1,038	7,861	(1,363)
1957	0	10,221	9,341	5,661	881	0	8,552	0	1,027	7,932	(1,762)
1958	0	32,616	31,443	7,267	1,173	0	16,086	0	2,271	9,317	(1,373)
1959	0	10,781	9,906	5,294	875	0	8,803	0	1,576	6,752	(1,257)
1960	0	6,088	5,203	5,203	832	0	6,803	0	181	6,037	(1,257)
1961	0	6,045	5,214	5,097	831	0	6,750	0	205	5,981	(1,257)
1962	0	8,160	7,307	5,063	853	0	7,528	0	172	5,969	(1,257)
1963	0	18,732	17,719	7,329	1,013	0	11,162	0	1,464	8,134	(1,257)
1964	0	7,034	6,195	5,43	839	0	7,793	0	587	6,501	(1,257)
1965	0	19,937	18,946	6,670	992	0	14,496	0	642	7,293	(1,257)
1966	0	8,990	8,128	5,602	863	0	8,613	0	911	7,314	(1,257)
1967	0	21,825	20,776	5,753	1,049	0	13,108	0	2,145	9,010	(1,257)
1968	0	12,804	11,909	5,557	895	0	9,256	0	2,697	7,480	(1,257)
1969	0	29,594	28,470	7,957	1,124	0	16,813	0	2,226	8,656	(1,257)
1970	0	28,062	27,022	5,637	1,039	0	18,655	0	2,788	7,820	(1,257)
1971	0	16,665	15,713	7,054	952	0	12,449	0	988	7,800	(1,257)
1972	0	7,607	6,760	5,409	847	0	7,849	0	880	7,223	(1,257)
1973	0	19,403	18,436	6,821	967	0	12,919	0	1,240	7,849	(1,257)
1974	0	32,109	30,983	6,944	1,126	0	19,746	0	1,813	8,642	(1,257)
1975	0	17,001	16,404	6,627	961	0	10,903	0	2,049	8,534	(1,257)
1976	0	5,553	4,732	4,416	822	0	6,343	0	1,429	7,016	(1,257)
1977	0	3,708	3,657	800	0	0	4,264	0	51	3,103	(1,257)
1978	0	17,254	16,291	7,933	963	0	11,117	0	1,819	6,326	(1,257)
1979	0	9,422	5,844	878	878	0	8,242	0	0	7,078	(1,257)
1980	0	30,310	29,247	5,676	1,063	0	20,548	0	1,274	8,079	(1,257)
1981	0	23,549	22,547	6,568	1,002	0	14,443	0	1,485	7,158	(1,257)
1982	0	8,638	7,782	5,109	856	0	7,849	0	0	7,016	(1,257)
1983	0	36,998	35,758	7,099	1,240	0	20,240	0	2,031	9,298	(1,257)
1984	0	64,167	62,613	6,197	1,553	0	51,346	0	10,638	16,391	(1,257)
1985	0	30,310	29,247	5,676	1,063	0	20,548	0	3,503	8,079	(1,257)
1986	0	8,527	7,673	5,068	854	0	8,383	0	0	7,064	(1,257)
1987	0	28,129	27,076	6,155	1,053	0	14,333	0	33	877	(1,257)
1988	0	5,938	5,109	4,819	830	0	5,602	0	7,145	5,912	(1,257)
1989	0	6,694	4,375	4,505	818	0	5,648	0	231	4,677	(1,257)
1990	0	4,665	3,851	4,506	815	0	6,313	0	255	5,533	(1,257)
1991	0	4,904	4,087	4,088	816	0	5,037	0	44	4,159	(1,257)
Average	0	14,612	13,681	5,802	931	0	10,291	1	1,046	6,759	(134)
											13,566

Table A3-26. Continued

Water Year	Available for DW Diversion (TAF)	Delta Storage (TAF)	Delta Storage Division (TAF)	Delta Storage Export (TAF)	Delta Storage Outflow (TAF)	Total Final Storage Export (TAF)	Final C-WEST Flow (TAF)	Final Delta Outflow (TAF)	3-Mile Slough Flow (TAF)	Old River Division Flow (TAF)	Old River Antioch Flow (TAF)	Old & Middle River Flow (TAF)	
1922	276	207	276	204	0	7,405 (443)	11,054	2,840	1,587	2,397	(6,317)		
1923	1,512	406	405	424	0	7,651 (951)	9,387	2,728	1,369	1,778	(6,776)		
1924	0	0	0	0	0	4,582 (1,144)	4,166	1,626	825	482	(4,416)		
1925	597	333	362	321	0	6,324 (1,271)	7,688	2,506	852	1,234	(5,949)		
1926	201	186	201	176	0	6,173 (1,476)	6,583	2,364	877	888	(5,834)		
1927	1,966	406	452	397	0	7,922 (1,497)	5,946	4,555	1,038	3,058	(7,363)		
1928	1,827	406	733	698	0	8,109 (2,066)	4,604	4,248	4,063	996	1,998	(7,666)	
1929	0	85	85	0	0	5,322 (1,303)	5,963	2,126	851	681	(4,356)		
1930	85	0	0	0	0	3,363 (297)	3,692	1,050	831	823	(5,116)		
1931	0	0	0	0	0	4,467 (344)	5,556	1,308	943	753	(3,142)		
1932	0	0	0	0	0	3,722 (344)	4,295	1,216	853	872	(3,486)		
1933	0	0	0	0	0	3,900 (560)	4,716	1,431	805	871	(3,696)		
1934	0	0	0	0	0	6,656 (1,050)	8,799	2,645	1,100	1,595	(6,054)		
1935	335	338	335	362	0	6,656 (588)	6,862	1,571	2,707	2,119	(6,136)		
1936	1,139	406	404	363	0	6,571 (1,596)	6,571	2,061	1,494	2,131	(5,822)		
1937	7,367	406	453	368	0	9,078 (1,758)	2,990	3,425	6,311	3,087	9,301	(6,366)	
1938	203	207	203	201	0	6,361 (1,596)	6,361	2,179	995	421	(5,991)		
1939	203	406	425	384	0	7,493 (989)	2,807	3,402	1,046	3,433	(6,849)		
1940	5,158	406	406	545	0	8,787 (1,323)	2,887	5,868	6,030	5,749	(6,068)		
1941	4,083	406	419	373	0	8,155 (89)	6,551	18,133	3,892	1,534	5,778	(7,699)	
1942	3,664	406	0	0	0	6,067 (1,277)	6,408	2,216	984	4,543	(7,042)		
1943	1944	0	0	0	0	6,980 (1,154)	2,461	2,461	866	1,254	(5,646)		
1944	656	333	362	400	0	7,317 (1,041)	6,070	3,402	1,139	2,360	(6,752)		
1945	1,795	406	400	0	0	6,409 (1,596)	5,572	2,198	958	6,030	(5,724)		
1946	1947	0	0	0	0	6,409 (1,512)	7,327	2,560	806	1,048	(6,188)		
1947	254	259	254	225	0	6,161 (1,511)	6,670	2,407	842	895	(5,908)		
1948	254	22	21	20	0	6,526 (1,511)	7,228	2,537	2,139	1,307	(6,249)		
1949	1948	417	366	417	0	8,198 (500)	18,780	4,124	1,430	4,624	(7,241)		
1950	1951	4,506	406	491	0	9,257 (536)	25,358	5,634	1,548	6,170	(8,118)		
1951	4,683	406	470	7,992	0	1,846 (2,859)	14,762	4,474	1,084	2,628	(7,464)		
1952	1,952	1,920	406	597	549	8,684 (2,859)	12,577	4,521	908	1,662	(8,383)		
1953	1953	1,920	406	324	319	6,821 (2,177)	5,495	2,495	839	318	(6,537)		
1954	1,954	1,947	319	338	314	8,242 (2,177)	25,708	5,504	1,711	6,428	(7,308)		
1955	1955	319	324	319	314	8,242 (2,177)	25,708	5,504	1,084	2,254	(6,922)		
1956	1,956	4,551	406	438	314	8,242 (2,177)	25,708	5,504	1,084	2,254	(6,922)		
1957	1,957	361	406	431	325	8,242 (2,177)	25,708	5,504	1,084	2,254	(6,922)		
1958	1,958	5,034	406	458	368	9,685 (2,177)	29,887	6,803	2,019	7,122	(7,985)		
1959	1,959	1,192	406	597	582	0	7,334 (2,034)	8,608	3,145	997	1,110	(6,929)	
1960	1,960	0	0	41	34	6,037 (1,938)	5,907	2,389	802	586	(5,834)		
1961	1,961	45	41	34	34	6,016 (1,938)	5,907	2,436	763	498	(5,839)		
1962	1,962	679	333	362	314	6,283 (1,459)	7,626	2,598	892	1,139	(5,925)		
1963	1,963	2,090	406	769	686	8,801 (2,226)	16,500	5,080	1,021	2,854	(6,922)		
1964	1,964	756	400	661	7,161	7,161 (2,591)	5,787	2,792	849	201	(6,922)		
1965	1,965	2,635	406	502	500	7,813 (2,347)	18,794	4,599	1,246	4,240	(7,034)		
1966	1,966	726	406	502	500	7,813 (2,347)	18,794	4,599	1,246	4,240	(7,034)		
1967	1,967	3,093	406	460	368	9,379 (2,632)	19,219	4,840	1,729	4,208	(8,040)		
1968	1,968	1,224	406	591	591	8,003 (2,556)	9,516	6,651	1,085	(7,641)	(7,641)		
1969	1,969	5,107	406	581	370	9,026 (2,908)	26,887	4,670	3,097	7,579	(6,341)		
1970	1,970	4,602	406	274	335	8,154 (1,617)	24,999	5,457	1,632	6,173	(7,025)		
1971	1,971	2,194	406	704	655	8,455 (1,651)	14,973	4,953	4,240	7,990	(7,025)		
1972	1,972	76	415	72	8,210	7,295 (2,479)	17,438	4,874	2,213	2,213	(7,025)		
1973	1,973	3,239	406	431	368	9,010 (81)	29,865	7,025	1,154	6,945	(8,339)		
1974	1,974	5,063	406	521	438	8,571 (1,617)	14,438	4,272	1,176	2,655	(8,339)		
1975	1,975	1,805	406	704	655	8,455 (1,651)	14,973	4,953	4,240	7,990	(7,025)		
1976	1,976	131	130	0	0	8,455 (1,651)	14,973	4,953	4,240	7,990	(7,025)		
1977	1,977	0	0	0	0	8,455 (1,651)	14,973	4,953	4,240	7,990	(7,025)		
1978	1,978	2,136	406	420	368	6,694 (43)	15,015	3,657	3,536	455	(7,353)		
1979	1,979	406	411	367	372	7,445 (1,304)	8,616	2,742	1,220	1,438	(6,734)		
1980	1,980	4,574	406	409	7,531	7,531 (2,371)	21,659	3,769	2,567	6,140	(5,396)		
1981	1,981	271	280	7,297	7,297 (2,110)	28,865	7,025	1,154	6,945	(8,339)			
1982	1,982	7159	406	678	375	9,673 (1,917)	4,874	3,657	2,797	2,97	(8,339)		
1983	1,983	406	308	308	10,676	10,676 (1,304)	34,290	5,670	1,129	687	(5,677)		
1984	1,984	406	411	334	4,413	7,445 (1,304)	58,633	4,881	1,324	3,494	(5,913)		
1985	1,985	1,004	406	417	7,259	7,259 (1,883)	26,785	3,683	3,669	1,438	(6,734)		
1986	1,986	5,490	406	439	369	7,514 (3,701)	7,209	2,733	1,103	850	(6,697)		
1987	1,987	1,087	406	595	5,945 (1,382)	26,814	4,240	2,756	7,942	(5,120)	(5,120)		
1988	1,988	223	230	300	3,806	4,419 (1,382)	2,135	2,135	919	753	(5,639)		
1989	1,989	24	218	230	3,806	5,536 (1,562)	6,416	1,887	685	503	(4,797)		
1990	1,990	0	0	0	0	4,159 (1,562)	4,572	1,572	646	813	(5,483)		
1991	1,991	0	0	0	0	3,852 (583)	4,859	1,477	634	894	(4,117)		
Average	1,996	272	314	282	0	7,041 (448)	13,252	3,356	1,369	2,908	(6,191)		

Table A3-27. Monthly Percentiles for DeltaSOS Simulations  
for Alternative 3 Cumulative Conditions

DW diversion (cfs)

Percentile	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	29	59	0	0	0	0	0	0	0
60	0	0	0	29	59	0	0	0	0	0	0	0
70	0	0	0	29	61	0	0	0	0	0	0	0
80	0	517	1,260	3,390	729	98	151	198	0	0	0	0
90	2,847	4,949	4,914	5,499	2,945	399	151	198	0	0	0	0
100	6,000	6,000	6,000	6,000	4,951	2,939	1,791	235	260	0	3,888	0
Mean	526	848	1,117	1,295	796	305	127	55	17	4	0	125

DW storage (TAF)

Percentile	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
0	0	0	(0)	0	(0)	(0)	(0)	(0)	(0)	(0)	(0)	0
10	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0
40	0	0	0	52	0	0	0	0	0	0	0	0
50	0	0	0	276	189	31	16	0	0	0	0	0
60	0	0	52	369	333	240	266	207	0	0	0	0
70	0	81	278	406	406	389	315	14	0	0	0	0
80	0	149	406	406	406	397	385	179	0	0	0	0
90	200	357	406	406	406	406	330	21	0	0	0	0
100	406	406	406	406	406	406	406	353	0	0	406	0
Mean	44	84	137	210	205	175	174	159	72	15	5	12

DW discharge for export (cfs)

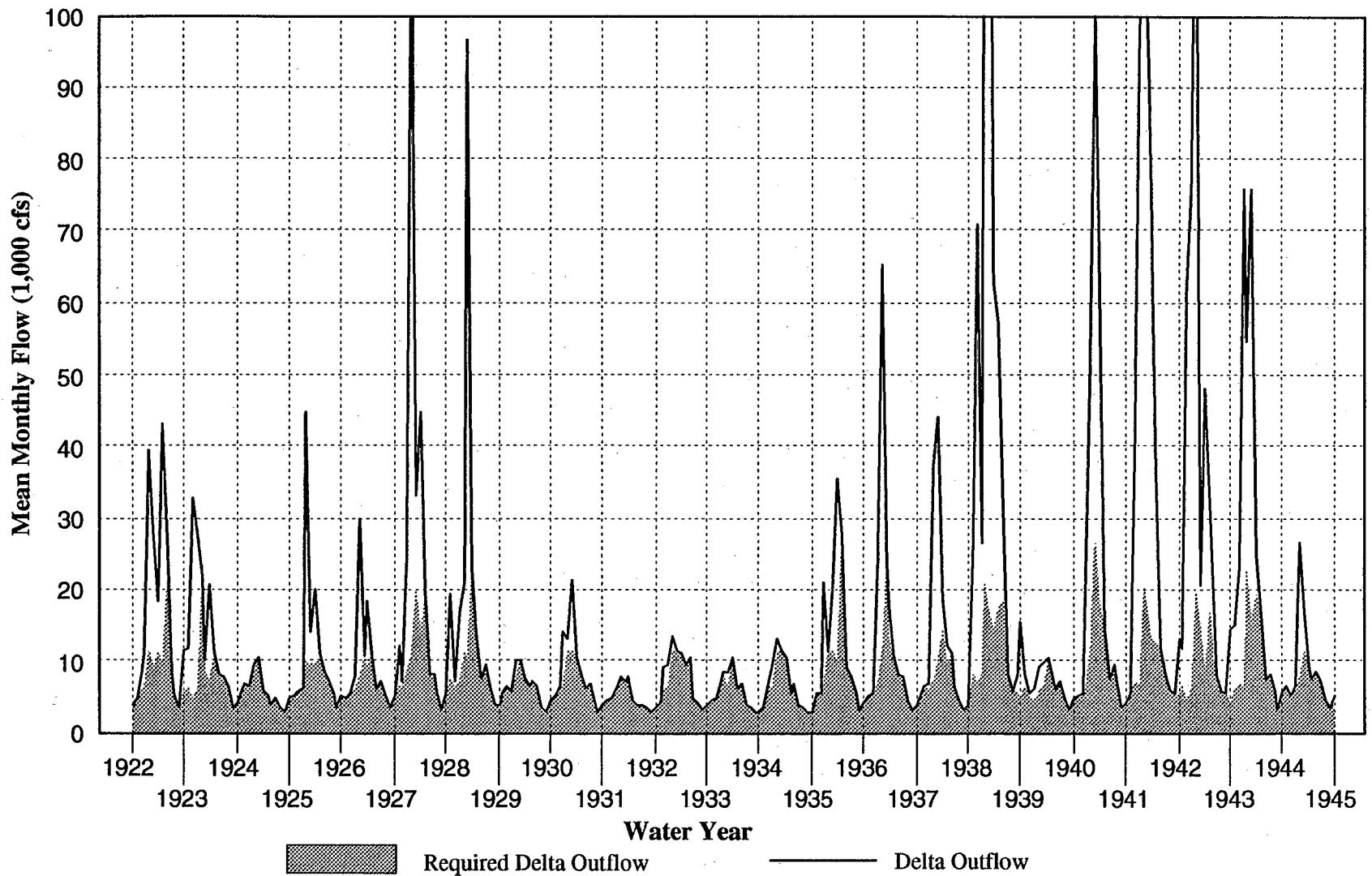
Percentile	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
0	0	0	0	0	0	0	0	0	0	0	0	0
10	0	0	0	0	0	0	0	0	0	0	0	0
20	0	0	0	0	0	0	0	0	0	0	0	0
30	0	0	0	0	0	0	0	0	0	0	0	0
40	0	0	0	0	0	0	0	0	0	0	0	0
50	0	0	0	0	0	0	0	0	0	0	0	0
60	0	0	0	0	0	0	0	0	0	0	0	0
70	0	0	0	0	0	0	0	0	0	0	0	0
80	0	0	0	329	1,031	0	67	3,583	1,454	0	0	0
90	0	0	1,296	0	3,851	2,922	167	636	5,878	3,463	112	0
100	0	2,518	4,215	2,703	6,000	895	3,000	6,000	6,000	3,938	0	0
Mean	0	159	255	90	841	732	61	204	1,352	861	127	0

DW discharge for outflow (cfs)

Percentile	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
0	4,329	3,356	5,087	4,862	6,075	3,202	2,865	2,496	1,207	1,968	653	3,340
10	5,166	5,415	7,383	8,704	6,836	4,723	3,645	3,215	5,500	4,519	3,564	3,661
20	6,895	6,670	7,857	10,953	9,184	6,570	3,873	3,639	5,595	6,959	4,957	5,599
30	8,033	7,402	9,197	11,593	12,331	9,174	4,412	4,074	5,804	8,325	5,199	6,120
40	8,541	8,413	11,937	14,47	14,500	12,287	5,623	5,017	6,267	11,260	6,064	6,428
50	9,096	10,700	12,749	14,500	14,500	6,573	6,047	7,026	11,437	7,028	6,587	
60	9,751	13,325	14,500	14,500	14,500	7,380	7,176	9,209	11,438	7,625	6,754	
70	11,962	14,900	14,500	14,500	14,500	8,921	8,457	10,551	11,438	8,521	7,478	
80	14,542	14,900	14,500	14,500	14,500	10,960	9,437	12,588	11,438	9,980	10,131	
90	14,900	14,900	14,500	14,500	14,500	11,760	11,760	13,615	11,403	14,073		
100	14,900	14,900	14,500	14,500	14,500	14,900	14,900	14,900	14,900	14,900	14,900	
Mean	9,997	10,602	11,742	12,853	12,516	11,491	7,310	6,856	8,717	10,034	7,132	7,615

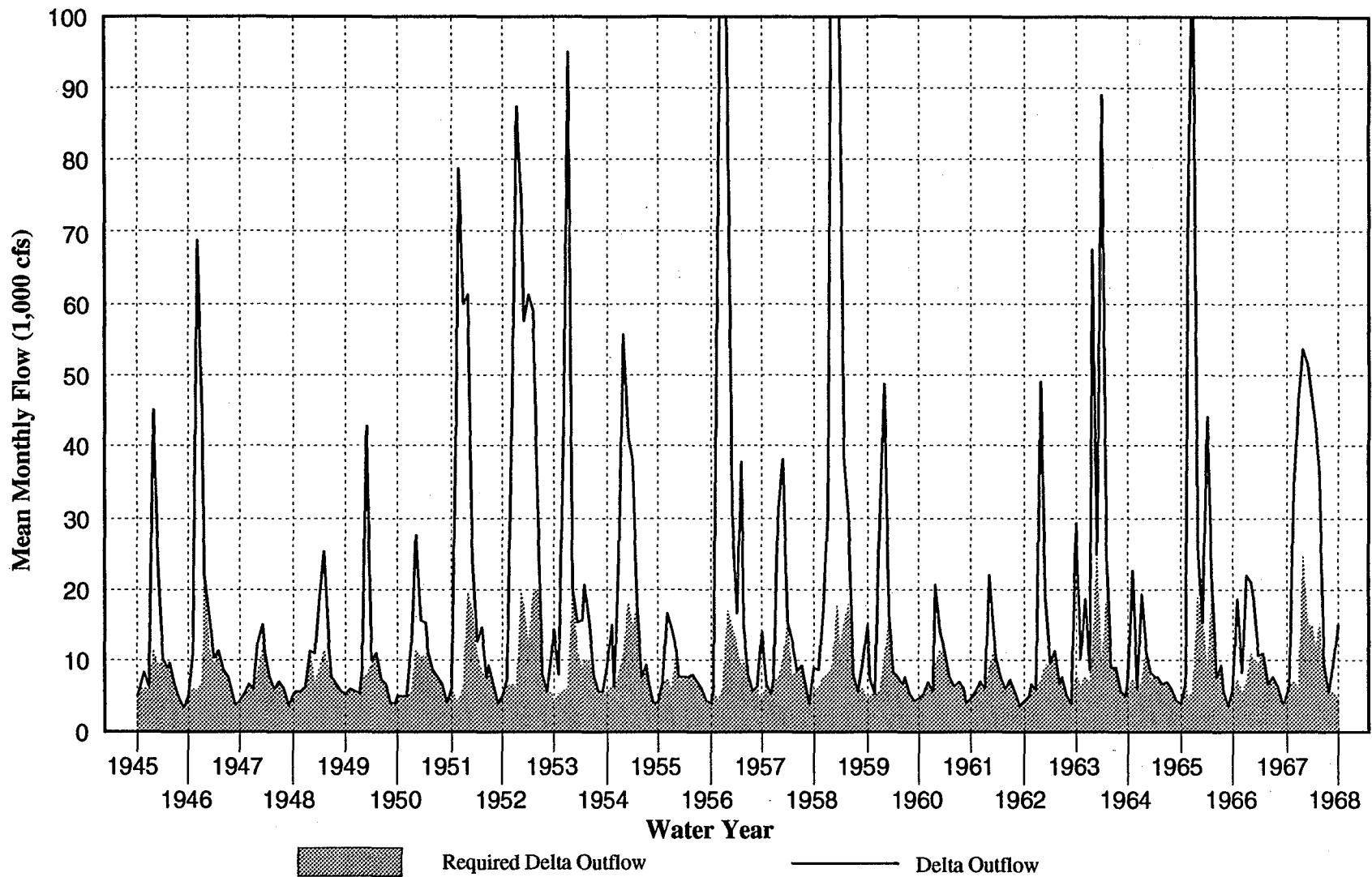
Final CVP Tracy and SWP Banks exports (cfs)

Percentile	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
0	4,329	3,356	5,087	4,862	6,075	3,202	2,865	2,496	1,207	1,968	653	3,340
10	5,166	5,415	7,383	8,704	6,836	4,723	3,645	3,215	5,500	4,519	3,564	3,661
20	6,895	6,670	7,857	10,953	9,184	6,570	3,873	3,639	5,595	6,959	4,957	5,599
30	8,033	7,402	9,197	11,593	12,331	9,174	4,412	4,074	5,804	8,325	5,199	6,120
40	8,541	8,413	11,937	14,47	14,500	12,287	5,623	5,017	6,267	11,260	6,064	6,428
50	9,096	10,700	12,749	14,500	14,500	6,573	6,047	7,026	11,437	7,028	6,587	
60	9,751	13,325	14,500	14,500	14,500	7,380	7,176	9,209	11,438	7,625	6,754	
70	11,962	14,900	14,500	14,500	14,500	8,921	8,457	10,551	11,438	8,521	7,478	
80	14,542	14,900	14,500	14,500	14,500	10,960	9,437	12,588	11,438	9,980	10,131	
90	14,900	14,900	14,500	14,500	14,500	11,760	11,760	13,615	11,403	14,073		
100	14,900	14,900	14,500	14,500	14,500	14,900	14,900	14,900	14,900	14,900	14,900	
Mean	9,997	10,602	11,742	12,853	12,516	11,491	7,310	6,856	8,717	10,034	7,132	7,615



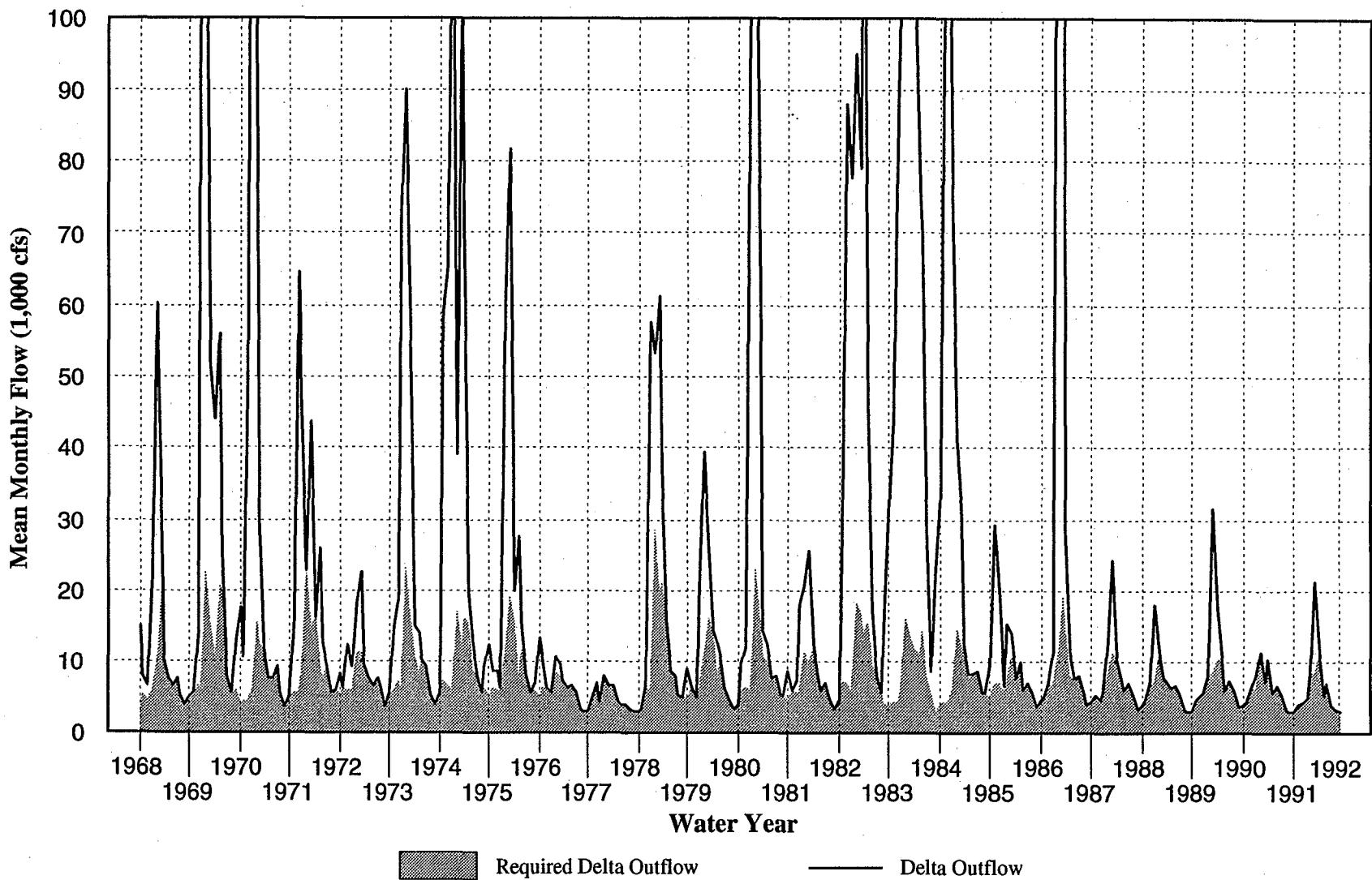
**Figure A3-1A.**  
DeltaSOS-Simulated Mean Monthly Delta Outflow and Required Delta  
Outflow for 1922-1944 for the No-Project Alternative

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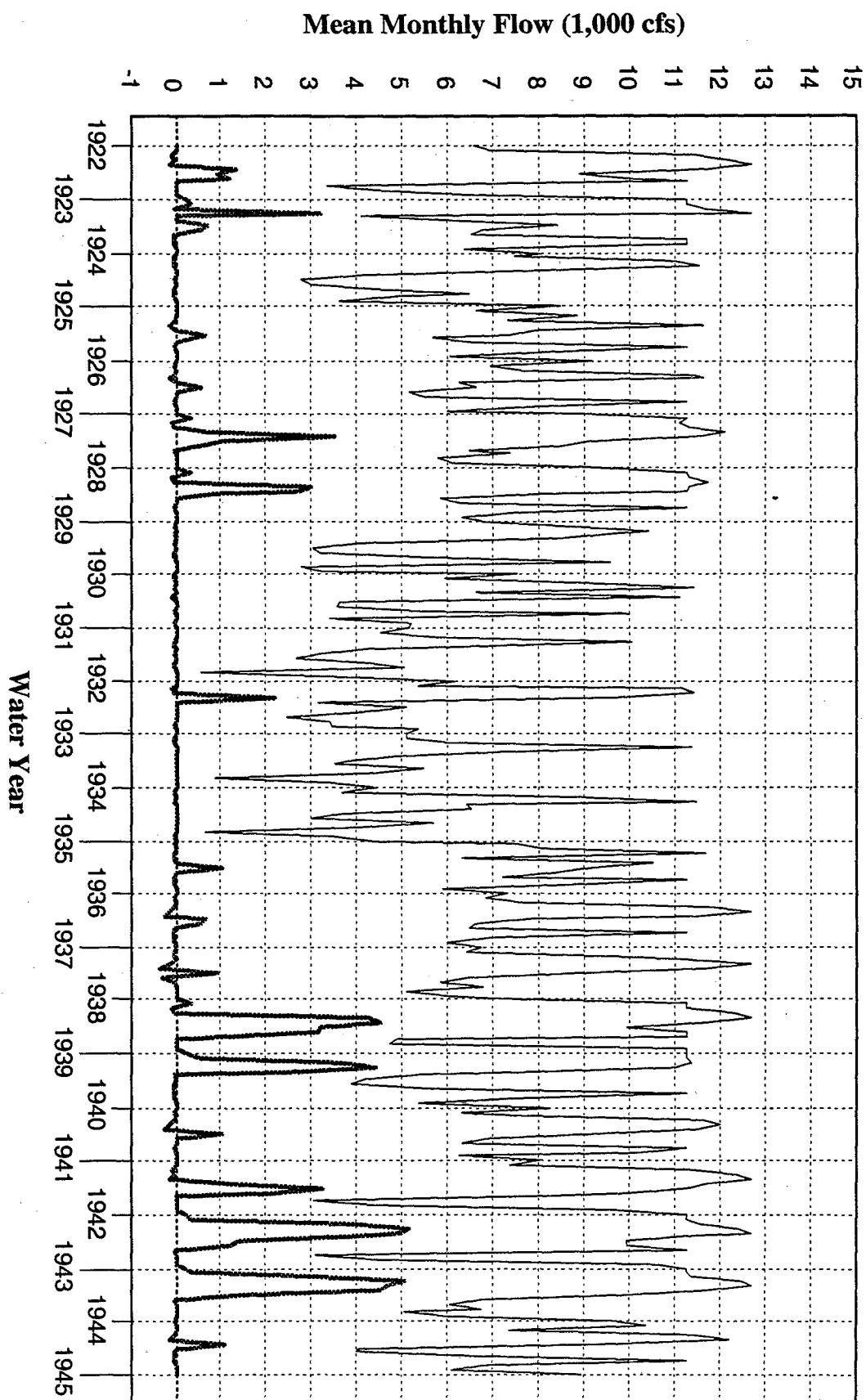
**Figure A3-1B.**  
DeltaSOS-Simulated Mean Monthly Delta Outflow and Required Delta  
Outflow for 1945-1967 for the No-Project Alternative

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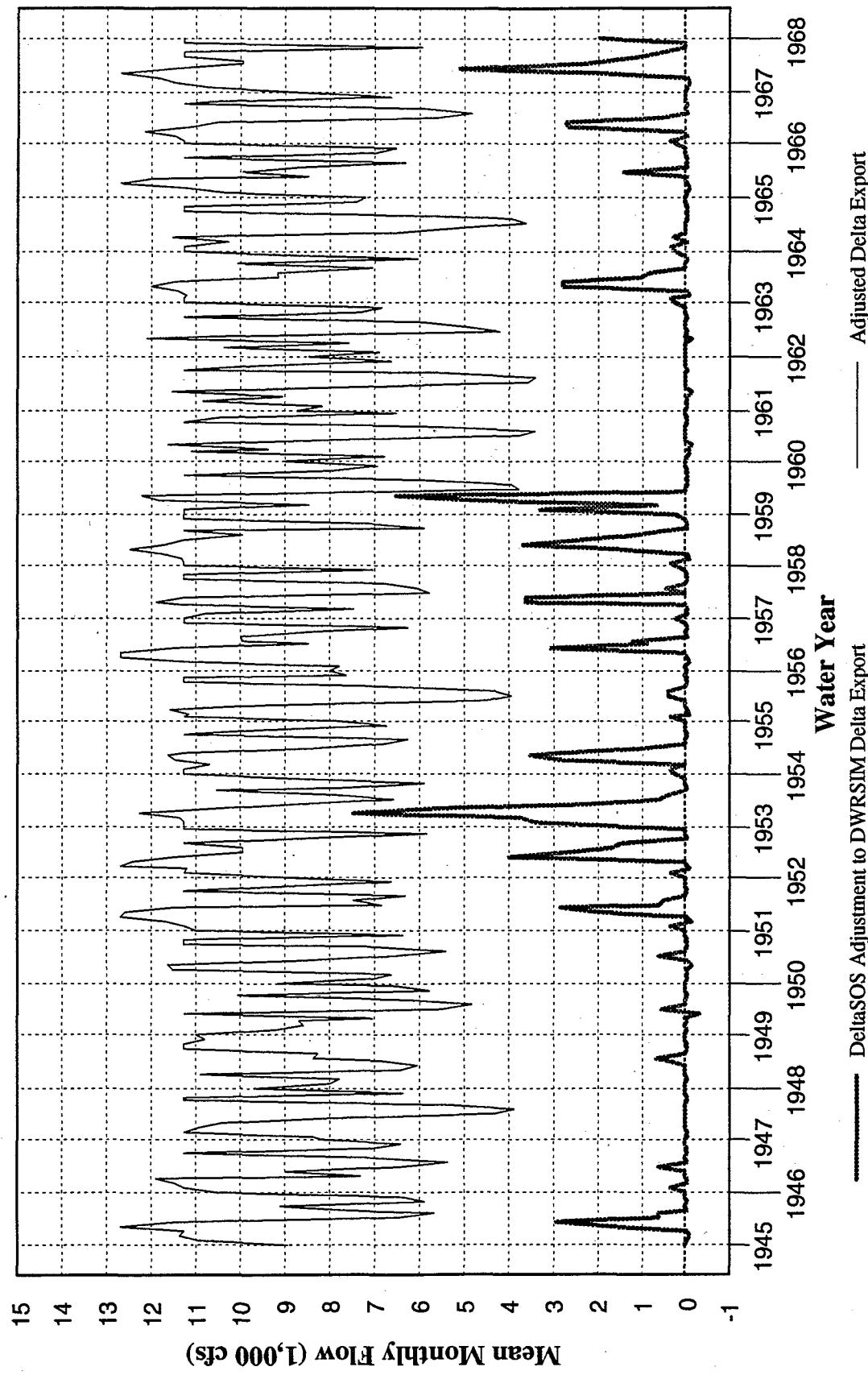
**Figure A3-1C.**  
DeltaSOS-Simulated Mean Monthly Delta Outflow and Required Delta  
Outflow for 1968-1991 for the No-Project Alternative

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Prepared by: Jones & Stokes Associates



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**Figure A3-2A.**  
DeltasOS-Simulated Mean Monthly Delta Export and Export Adjustment  
for 1922-1944 for the No-Project Alternative

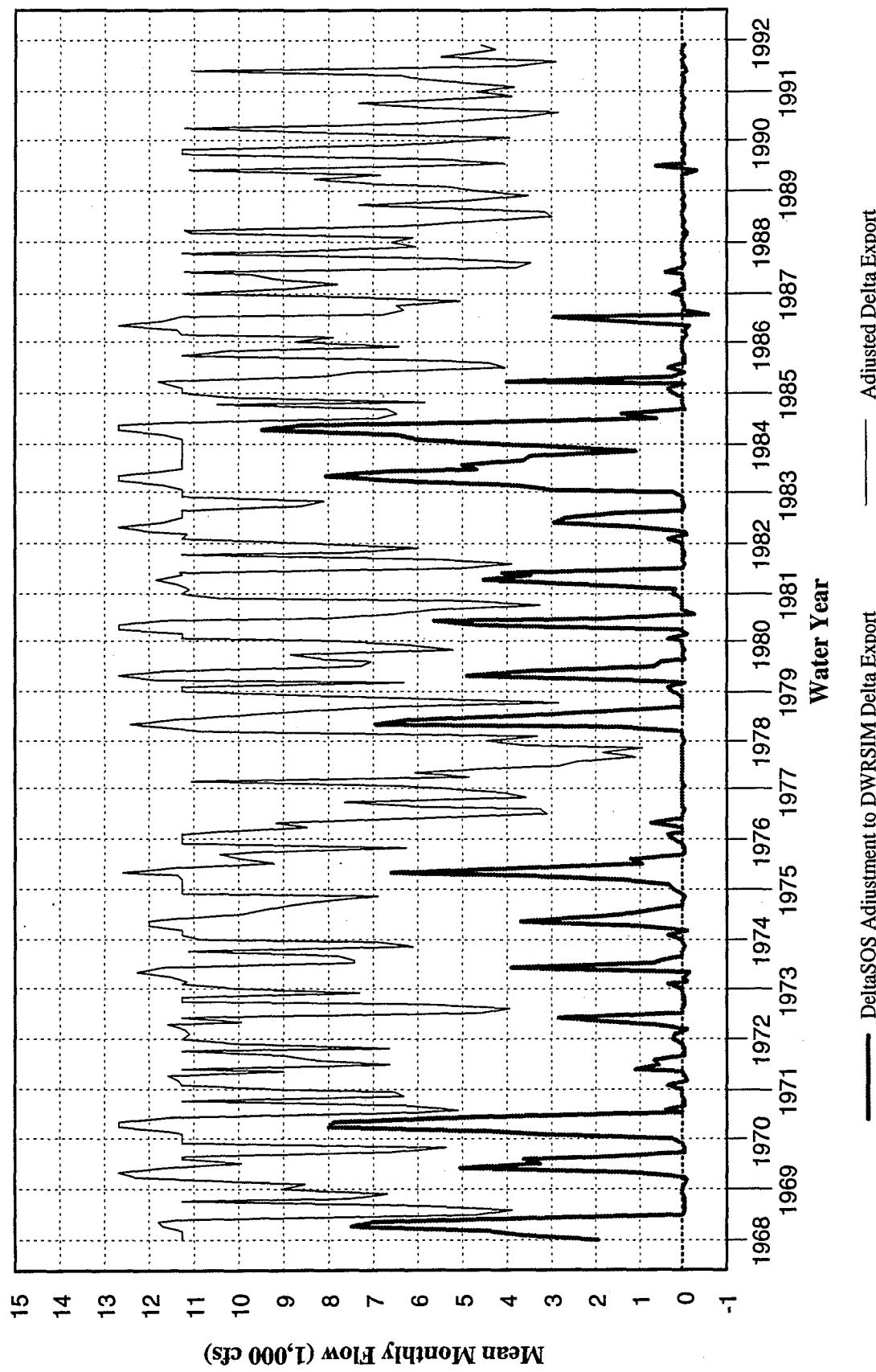


**Figure A3-2B.**

DeltaSOS-Simulated Mean Monthly Delta Export and Export Adjustment  
for 1945-1967 for the No-Project Alternative

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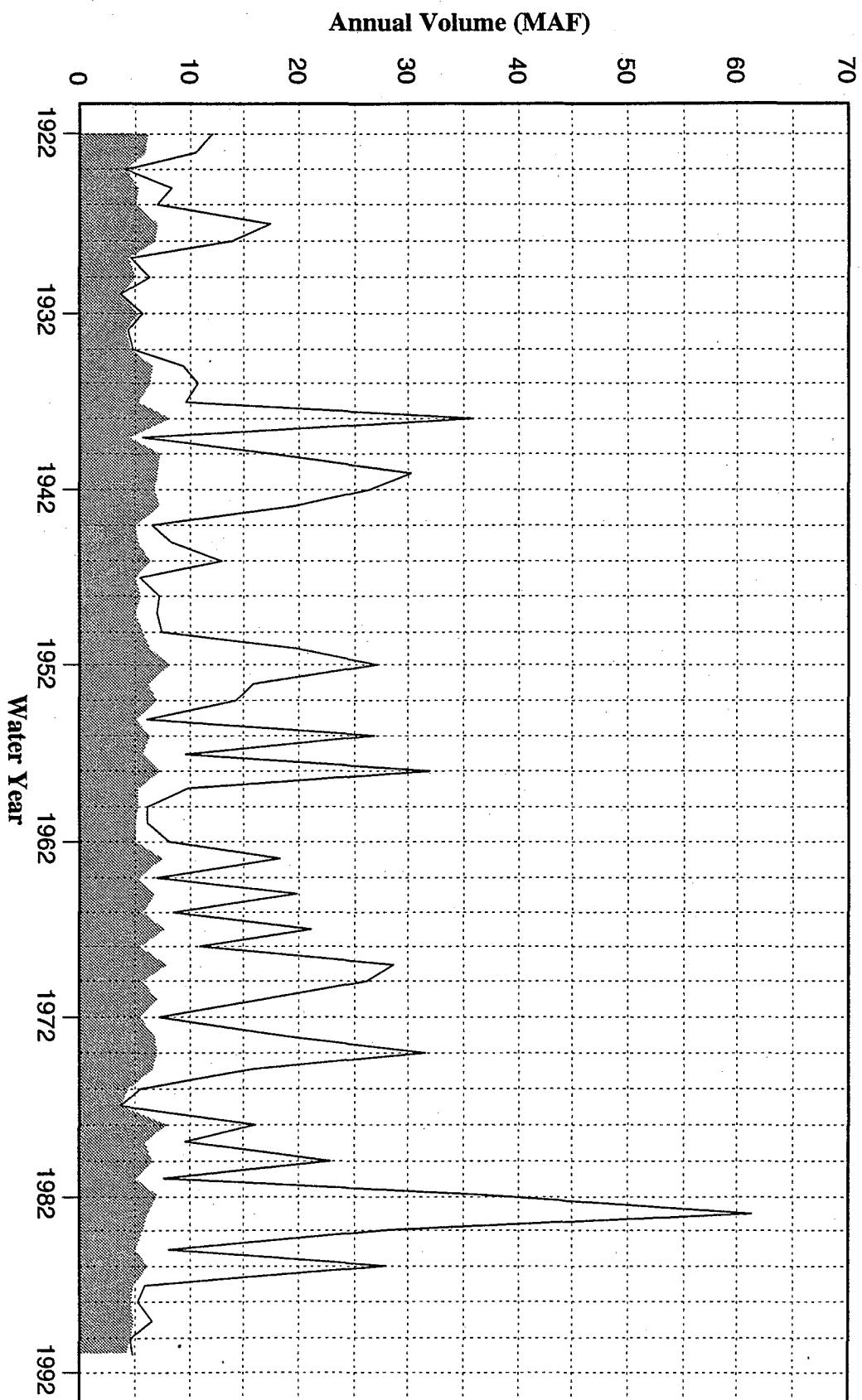
Prepared by: Jones & Stokes Associates

**Figure A3.2C.**

DeltaSOS-Simulated Mean Monthly Delta Export and Export Adjustment  
for 1968-1991 for the No-Project Alternative

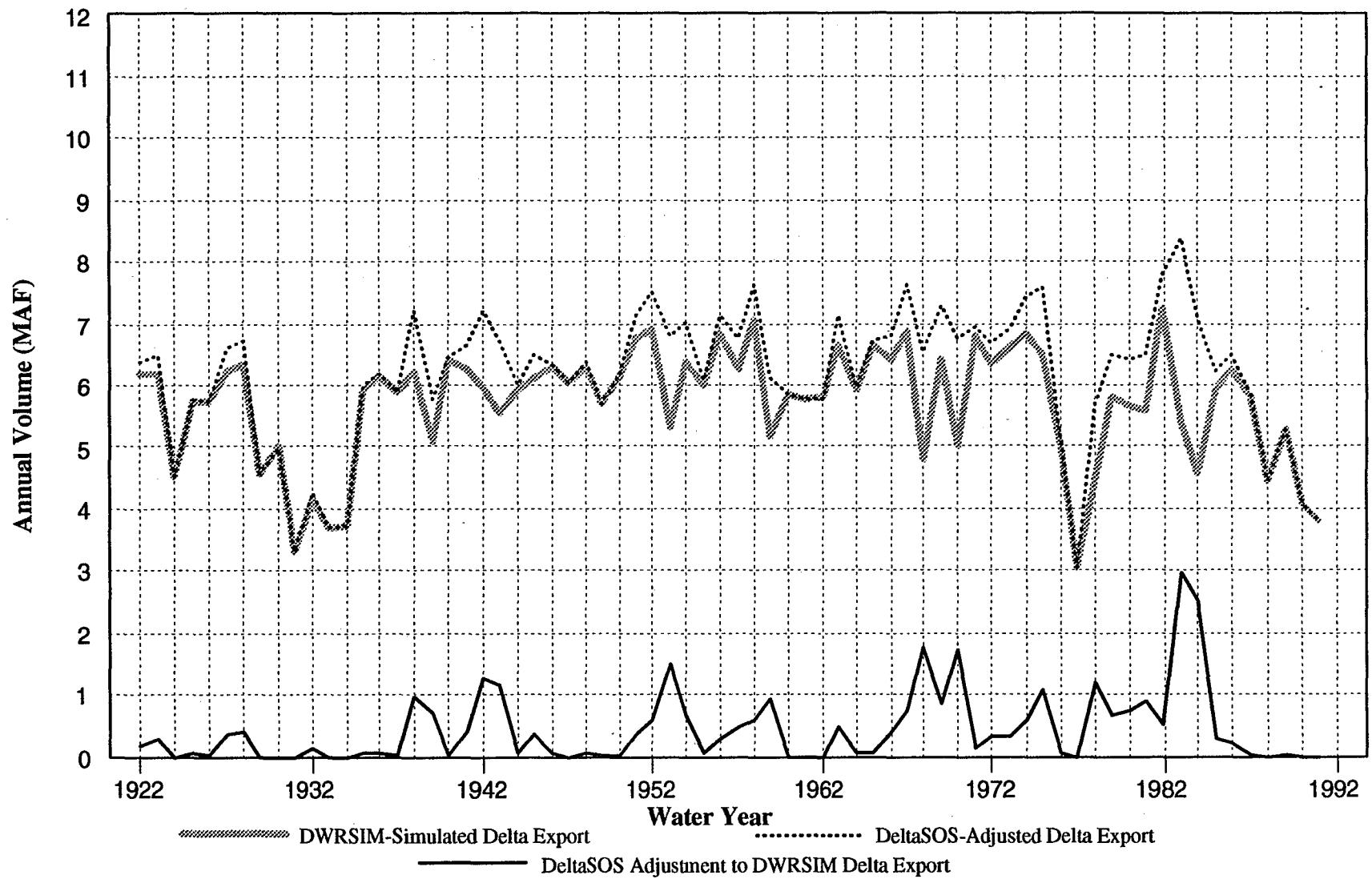
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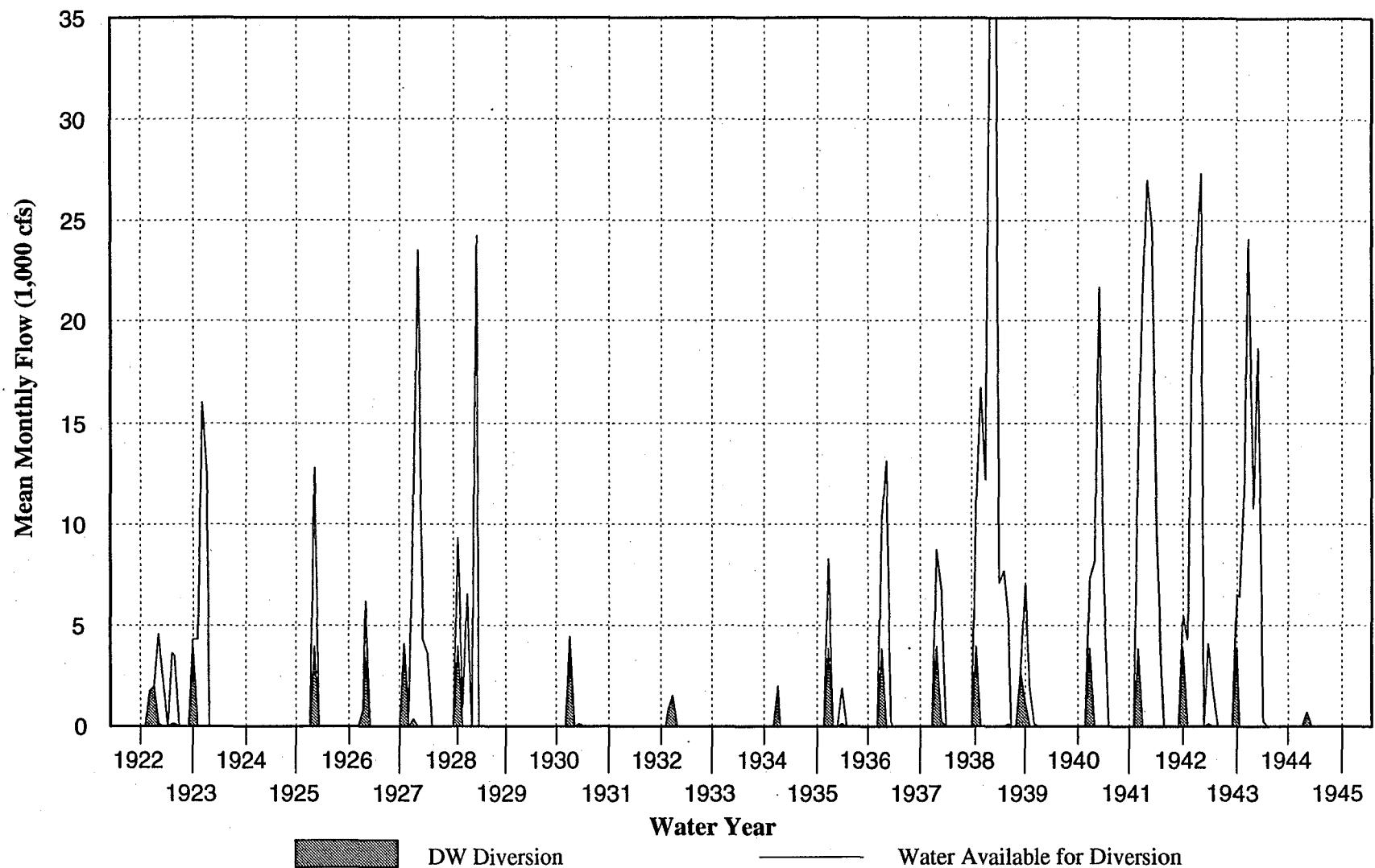
**Figure A3-3.**

DeltaSOS-Simulated Annual Delta Outflow and Required Delta Outflow  
for 1922-1991 for the No-Project Alternative



**Figure A3-4.**  
DWRSIM-Simulated and DeltaSOS-Adjusted Annual Delta Export  
for 1922-1991 for the No-Project Alternative

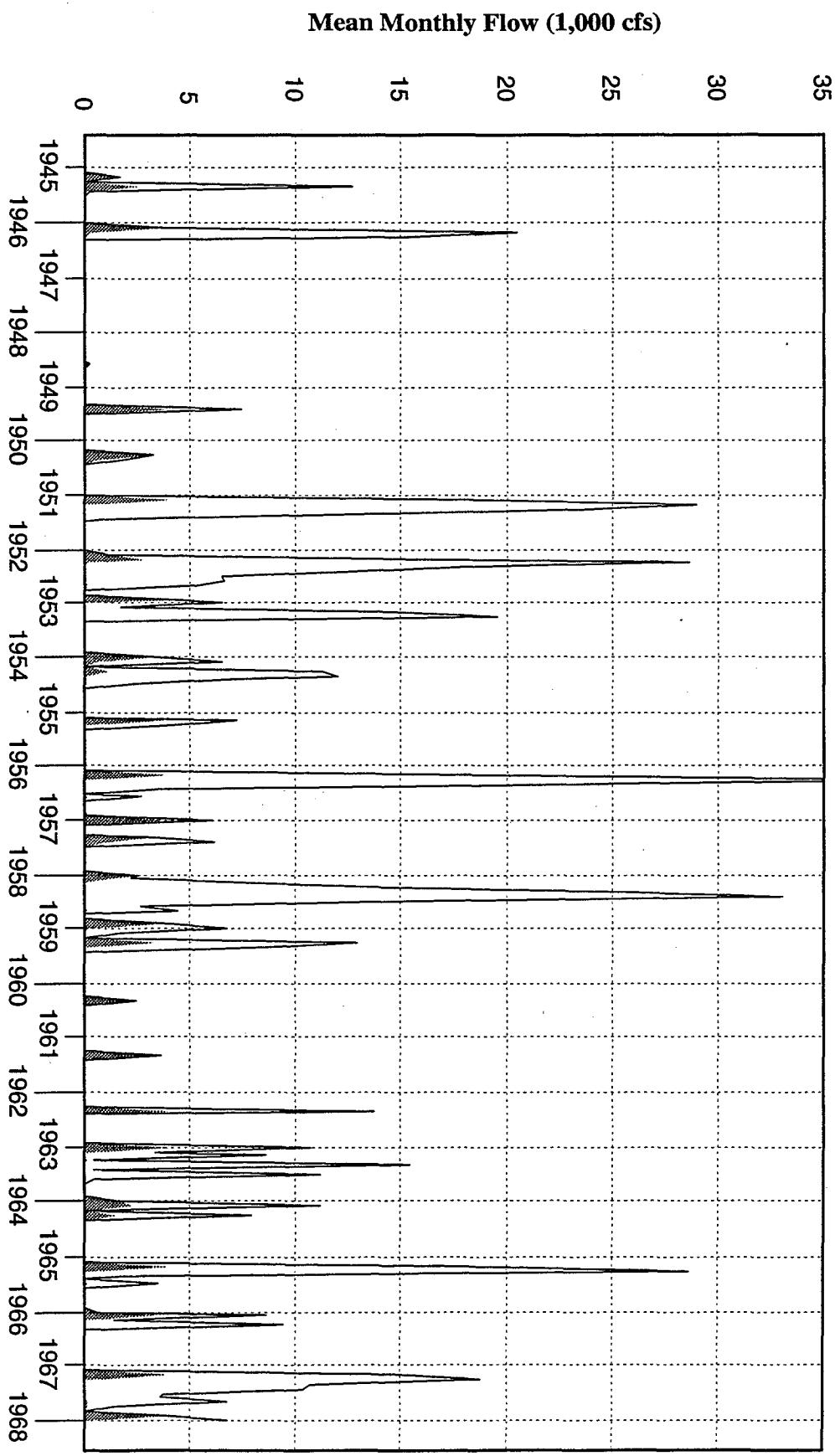
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**Figure A3-5A.**

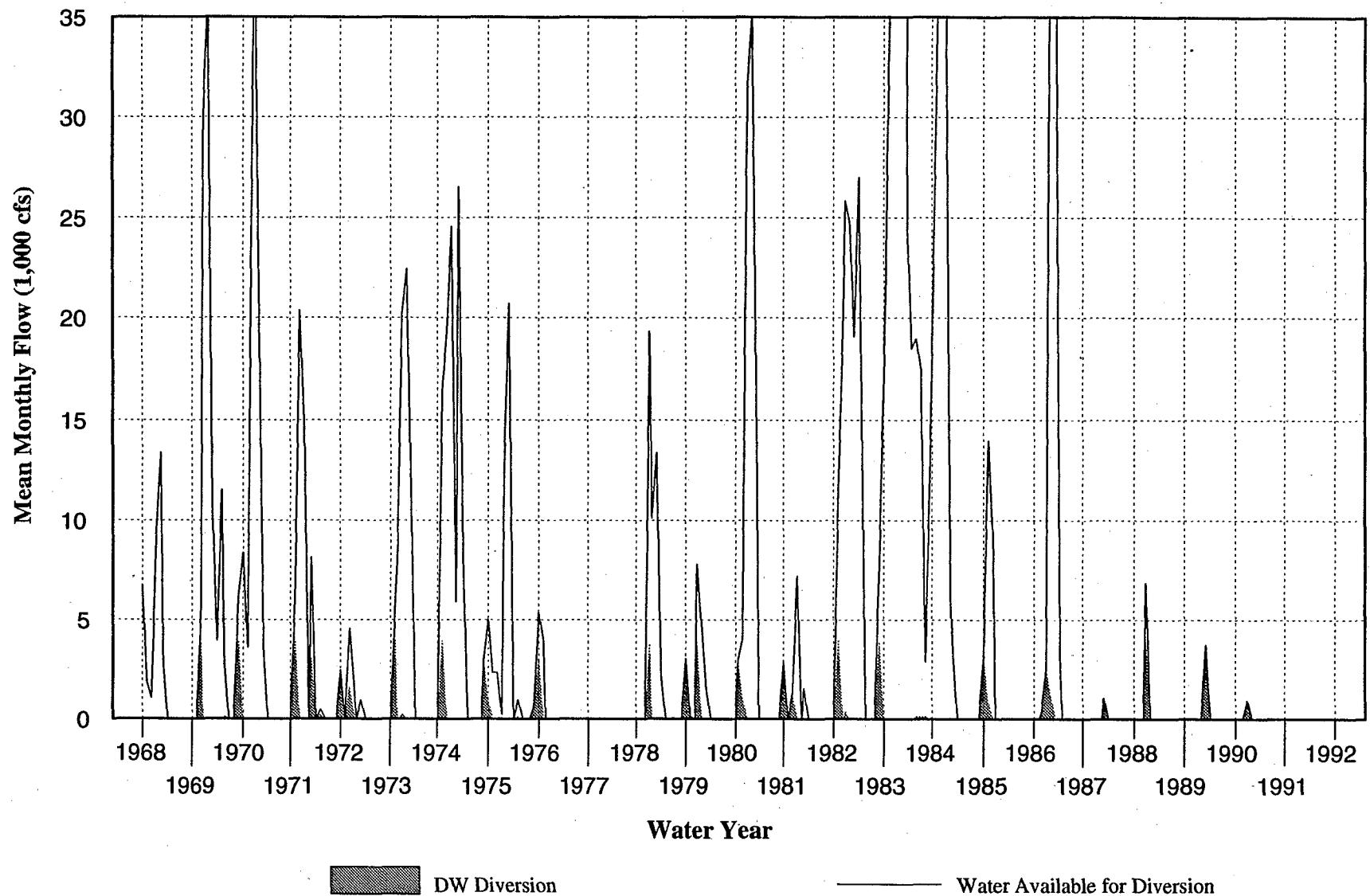
DeltaSOS-Simulated Mean Monthly Water Available for Diversion and DW Diversion for 1922-1944 for Alternative 1

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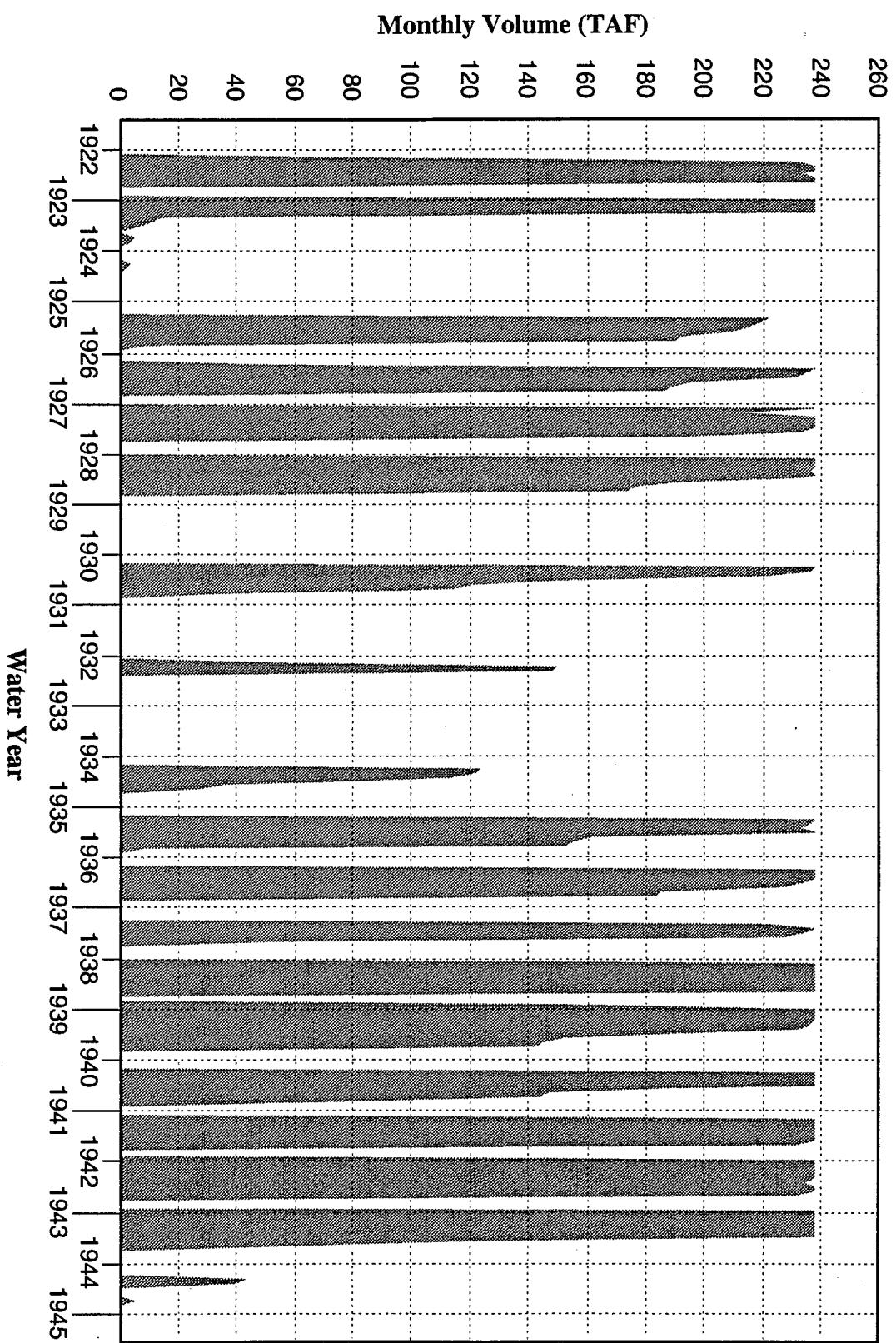
**Figure A3-5B.**  
DeltaSOS-Simulated Mean Monthly Water Available for Diversion and  
DW Diversion for 1945-1967 for Alternative 1

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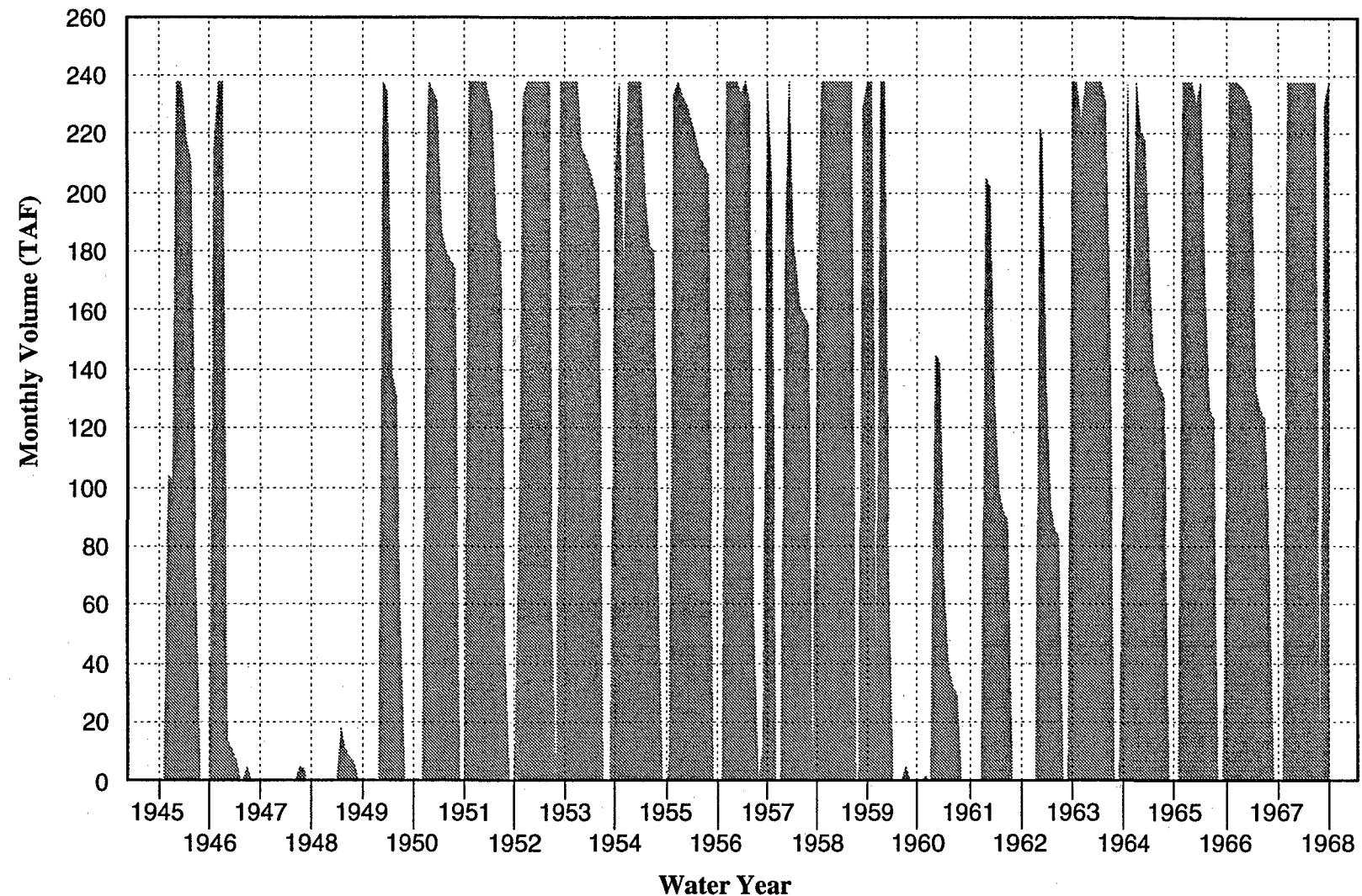
**Figure A3-5C.**  
DeltaSOS-Simulated Mean Monthly Water Available for Diversion and  
DW Diversion for 1968-1991 for Alternative 1

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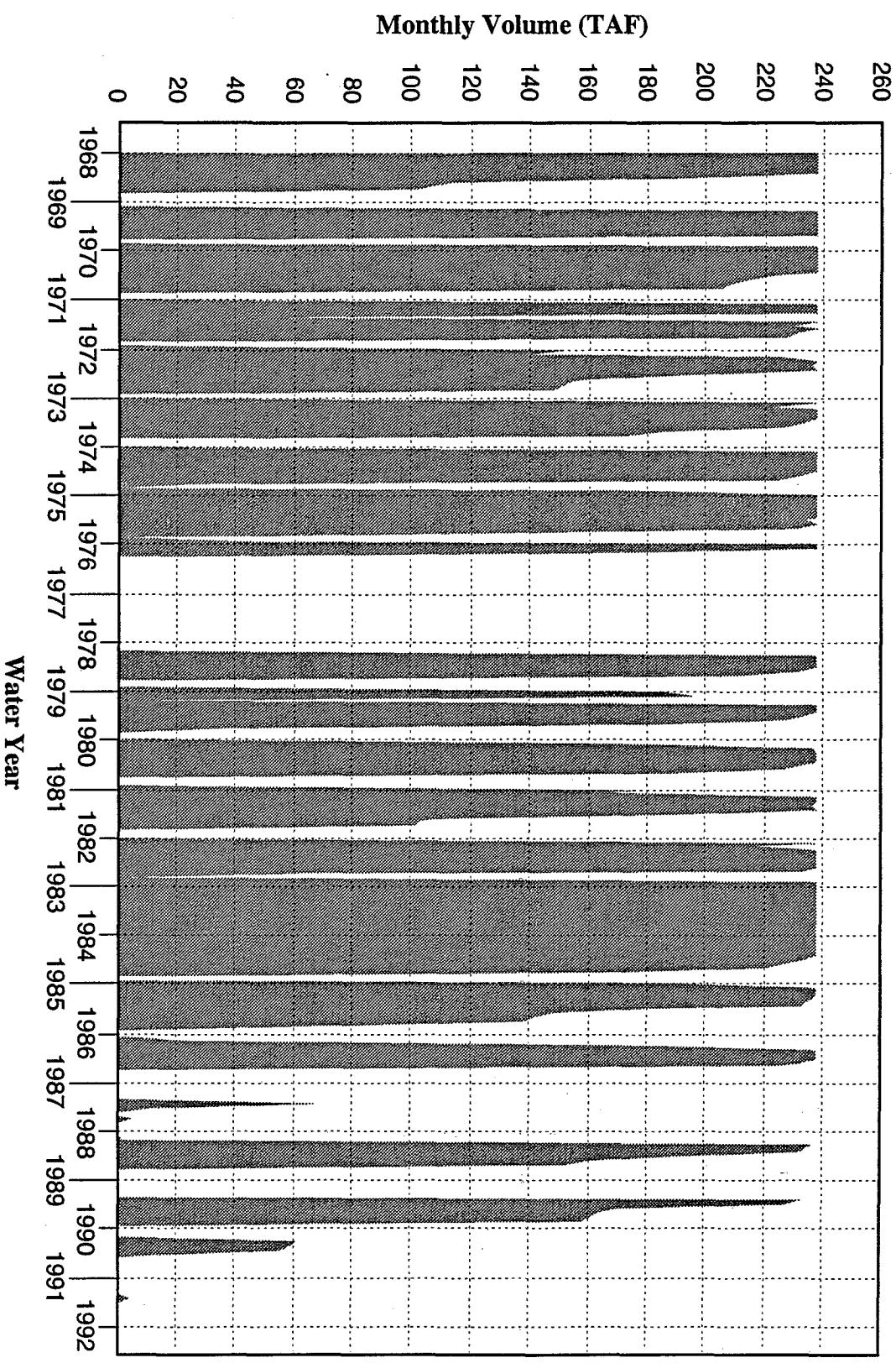
**Figure A3-6A.**  
DeltasOS-Simulated End-of-Month DW Storage  
for 1922-1944 for Alternative 1

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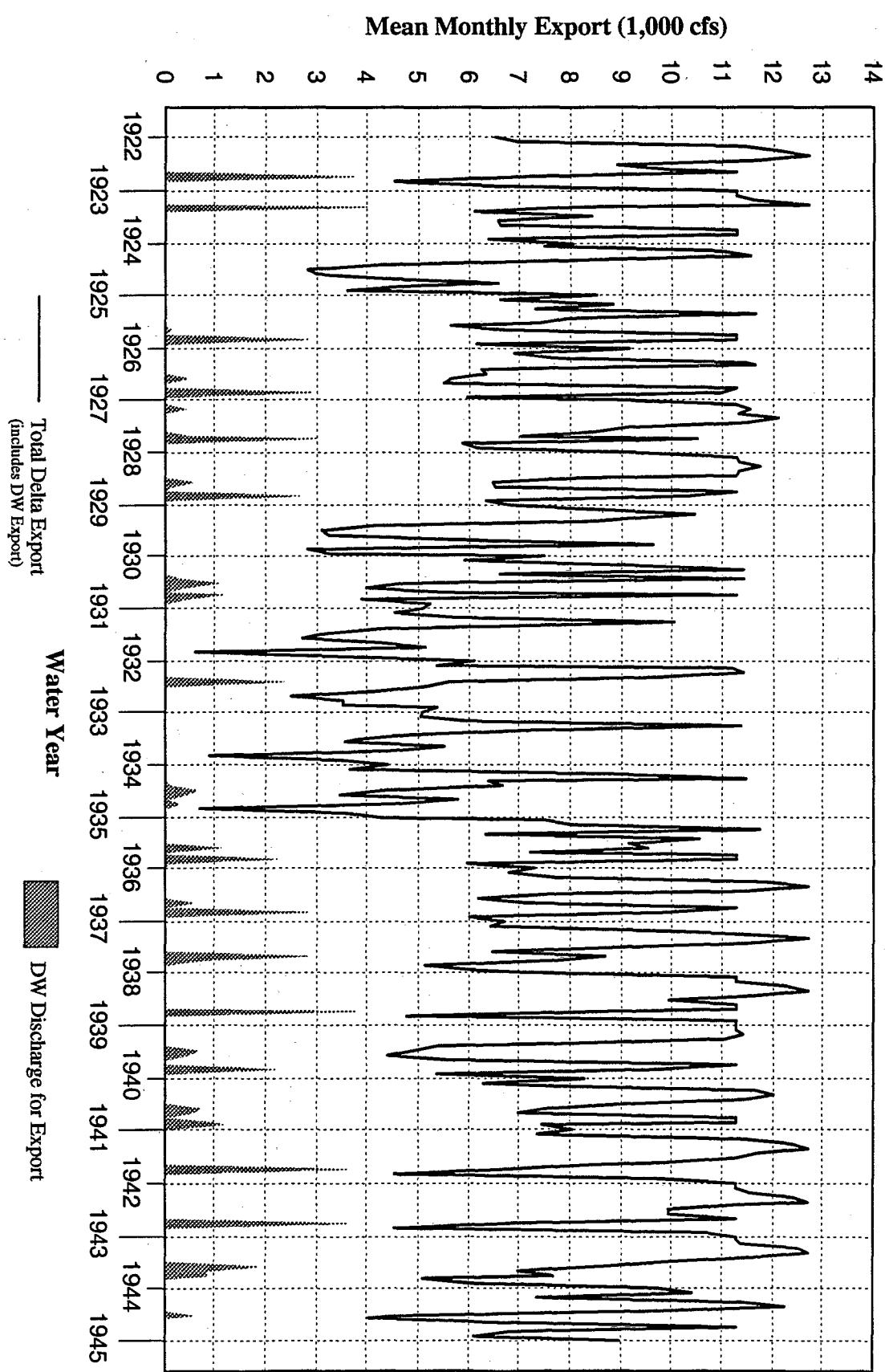
**Figure A3-6B.**  
DeltaSOS-Simulated End-of-Month DW Storage  
for 1945-1967 for Alternative 1

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**Figure A3-6C.**  
DeltasOS-Simulated End-of-Month DW Storage  
for 1968-1991 for Alternative 1

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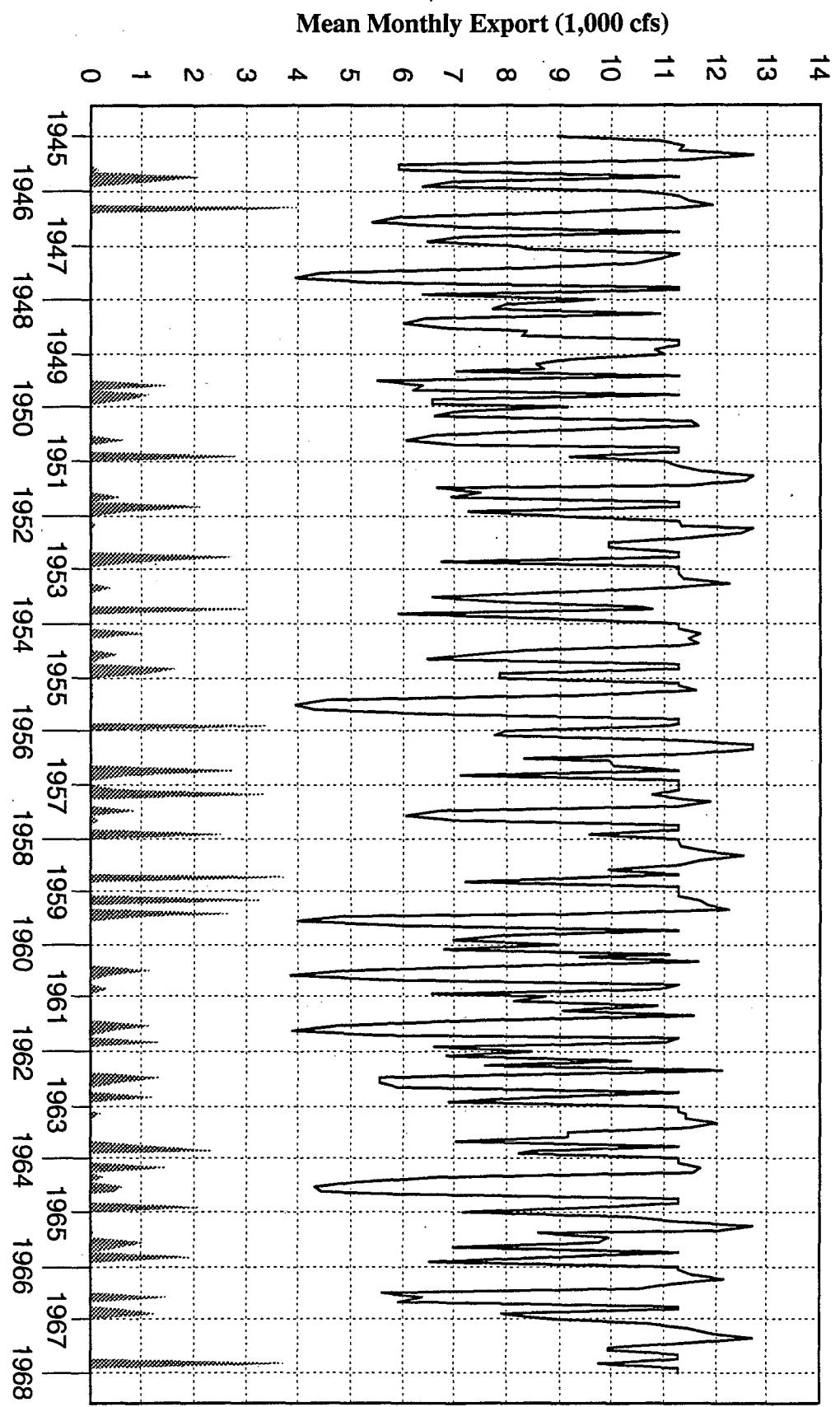
**Figure A3-7A.**

DeltasOS-Simulated Mean Monthly Final Total Delta Export and DW Discharge  
for Export for 1922-1944 for Alternative 1

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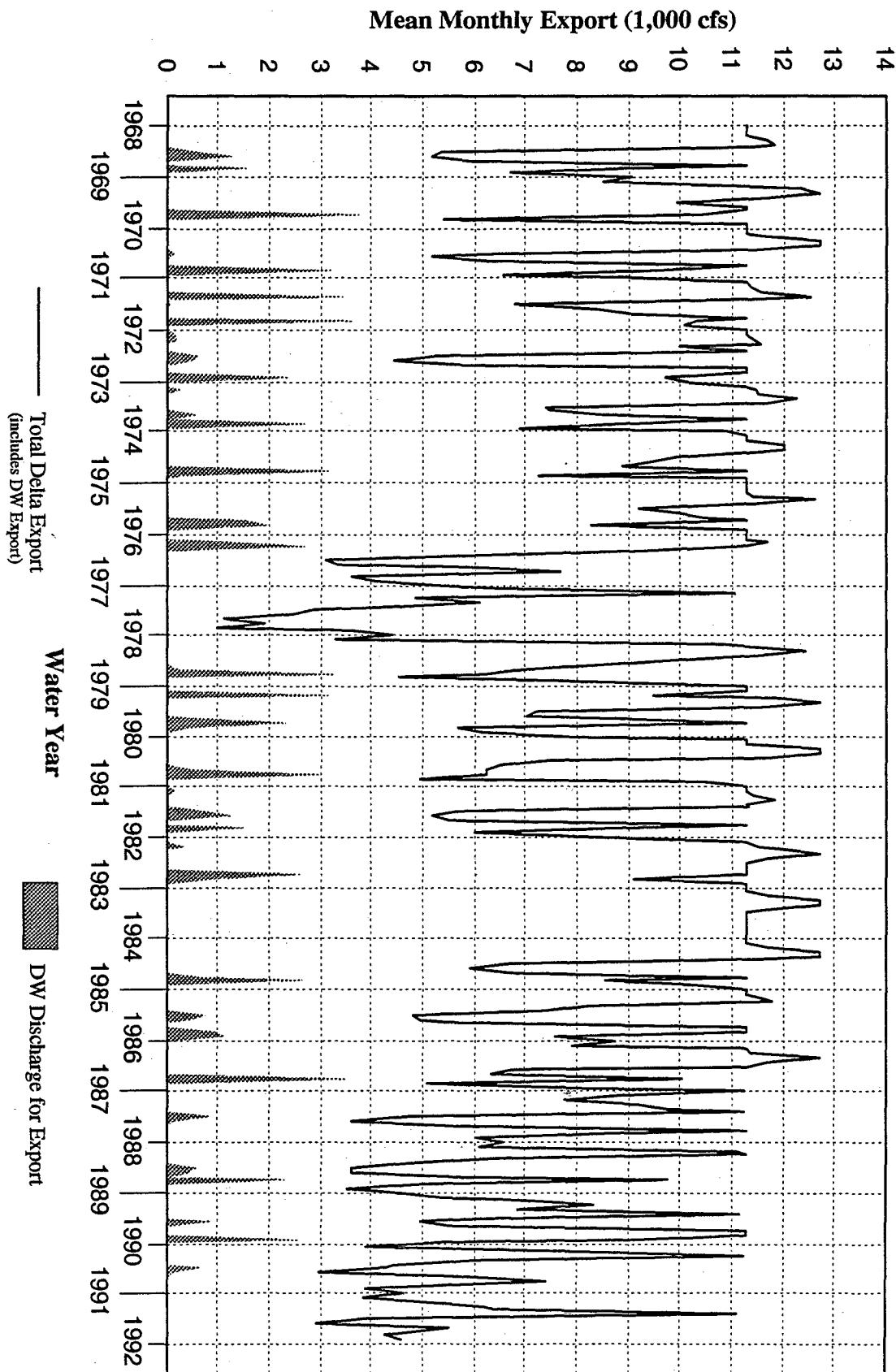
Prepared by: Jones & Stokes Associates



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**Figure A3-7B.**  
**DeltasOS-Simulated Mean Monthly Final Total Delta Export and DW Discharge**  
 for Export for 1945-1967 for Alternative I

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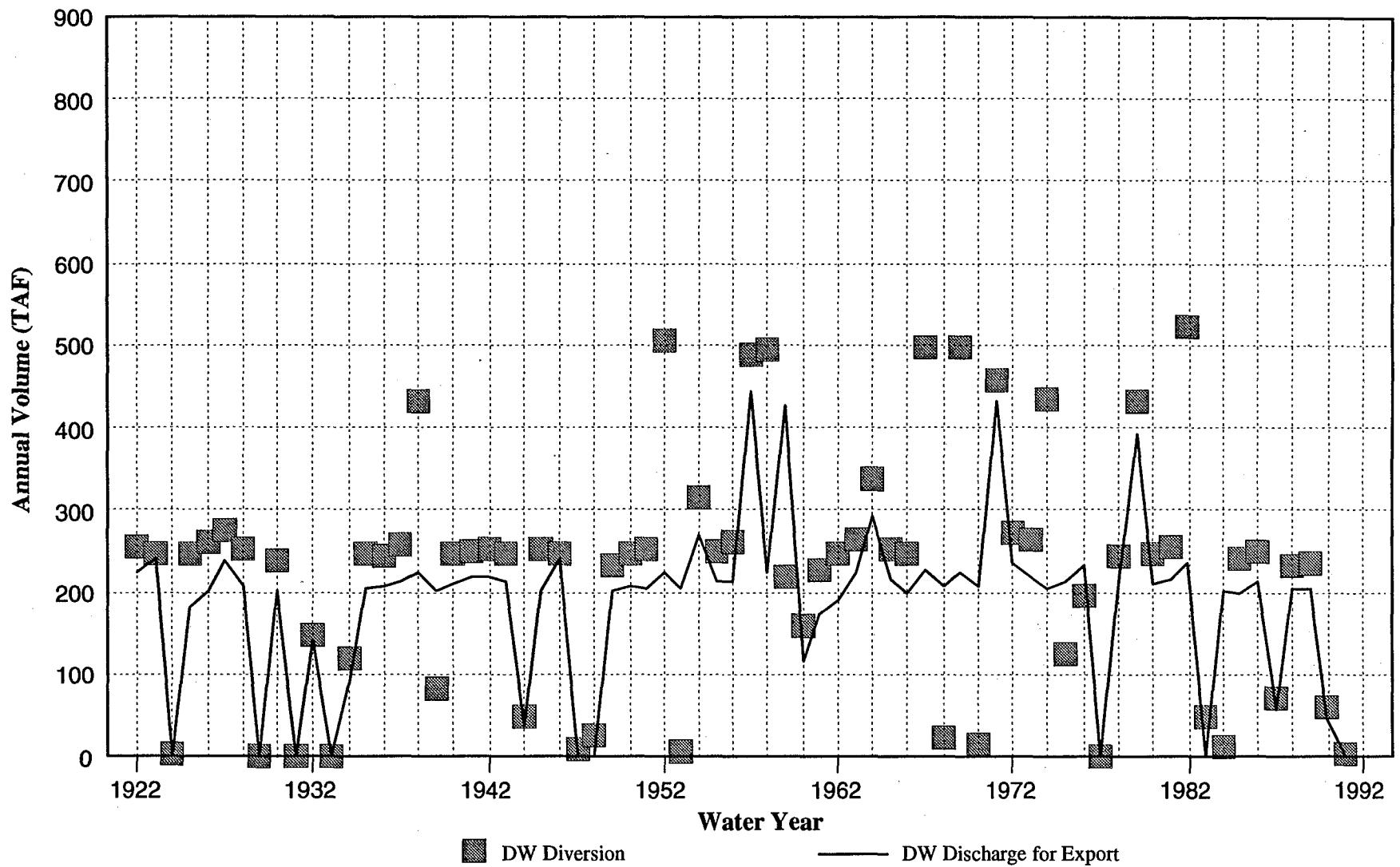


**Figure A3-7C.**

DeltaSOS-Simulated Mean Monthly Final Total Delta Export and DW Discharge  
for Export for 1968-1991 for Alternative 1

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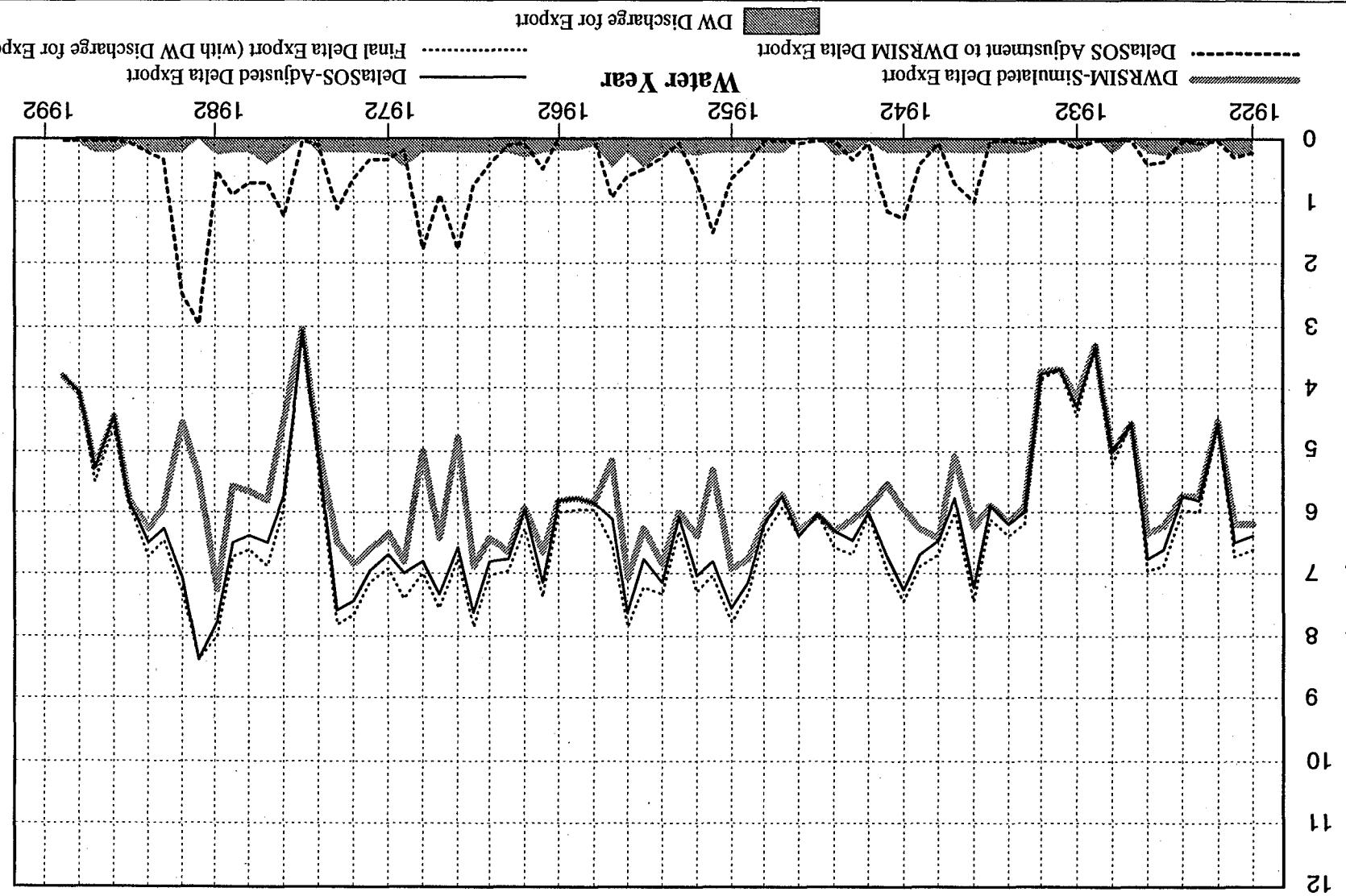
**Figure A3-8.**  
DeltaSOS-Simulated Annual DW Diversion and DW Discharge  
for Export for 1922-1991 for Alternative 1

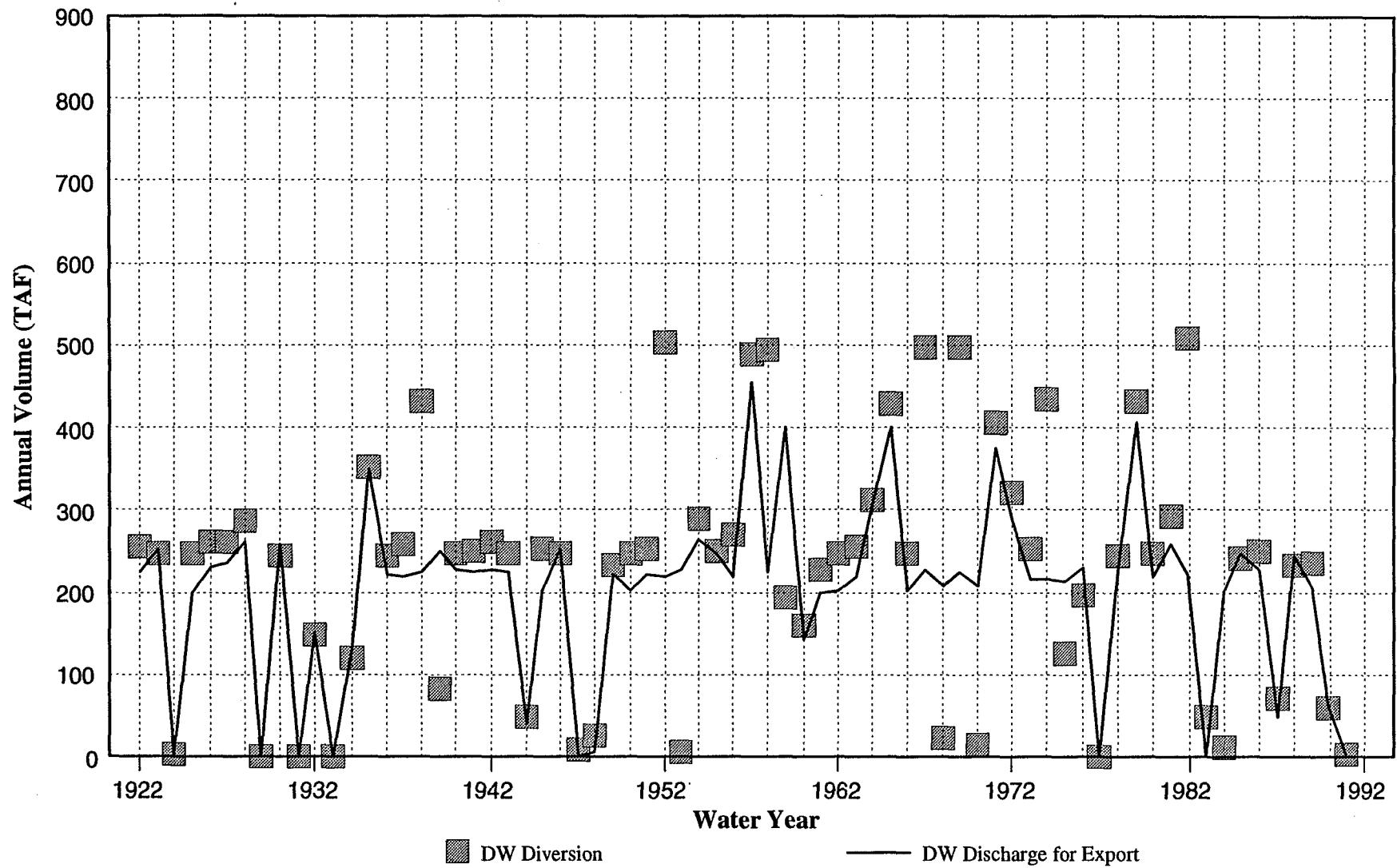
**DELTA WETLANDS  
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Figure A3-9.

DWRSIM-Simulated, DeltaSOS-Adjusted, and Final (with DW Discharge for Export) PROJECT EIS

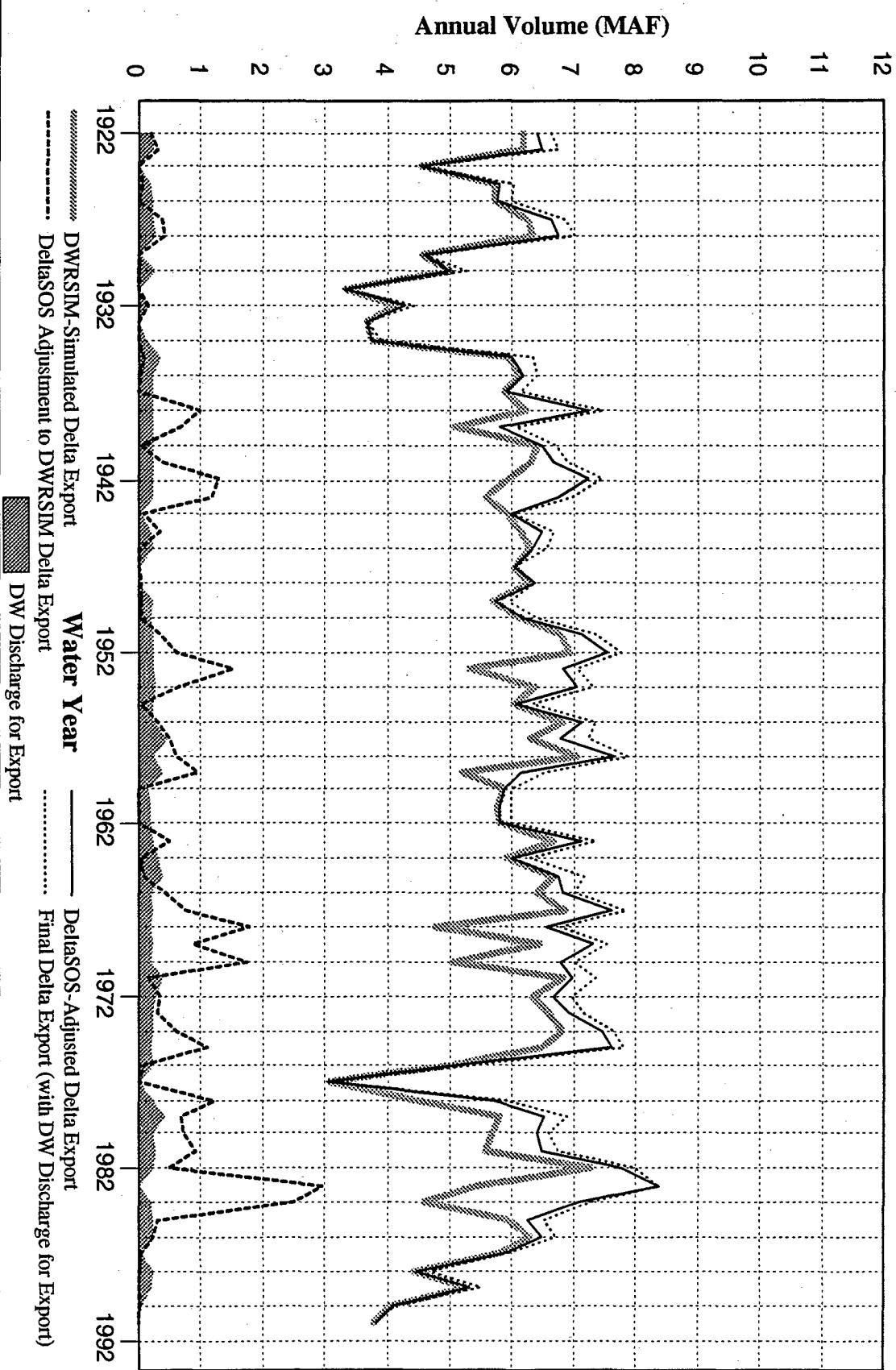
**DELTAS WETLANDS**





**Figure A3-10.**  
DeltaSOS-Simulated Annual DW Diversion and DW Discharge  
for Export for 1922-1991 for Alternative 2

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**Figure A3-11.**

DWRSM-Simulated, DeltaSOS-Adjusted, and Final (with DW Discharge for Export)  
Annual Delta Export for 1922-1991 for Alternative 2

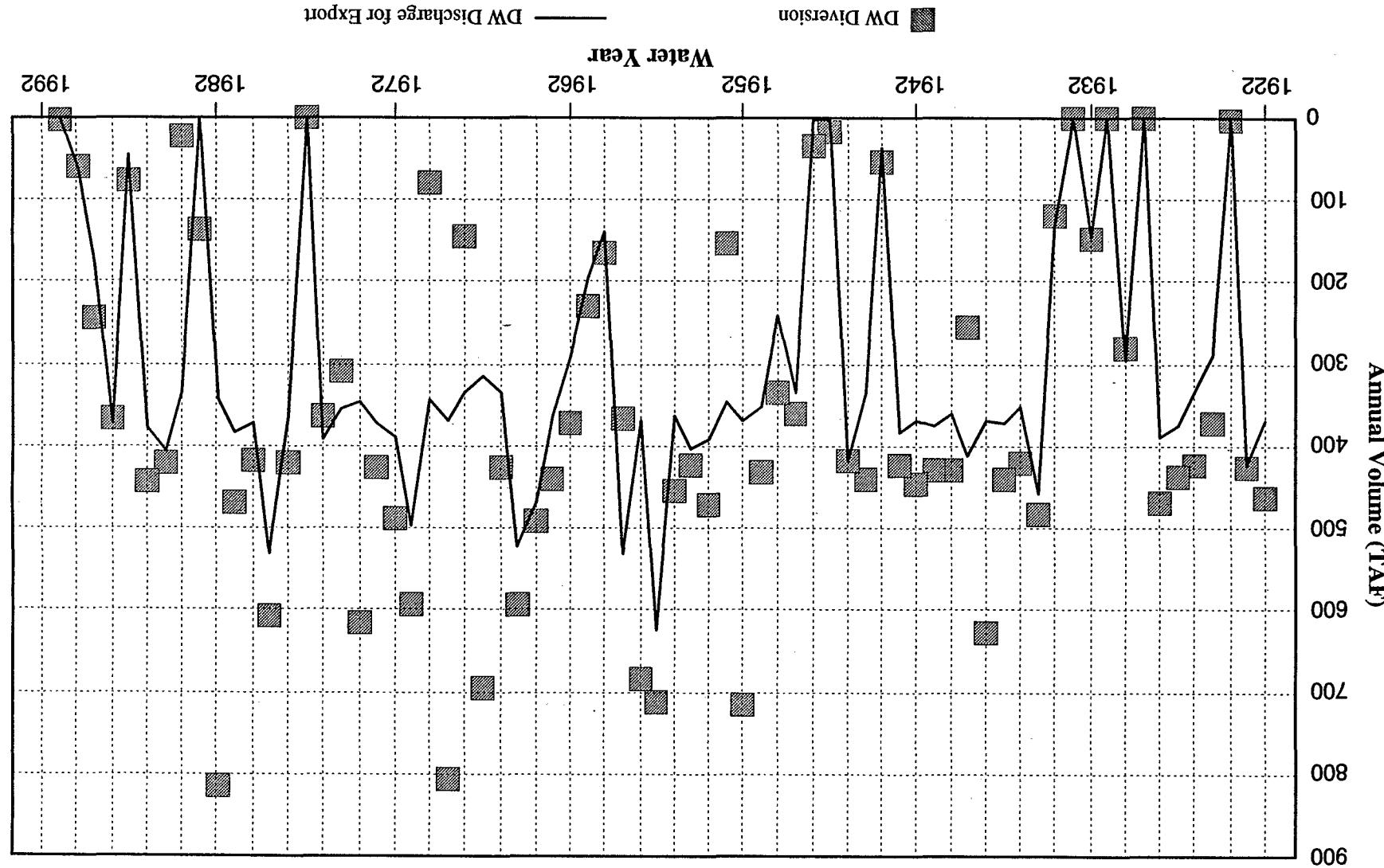
**DELTA WETLANDS  
PROJECT EIR/EIS**

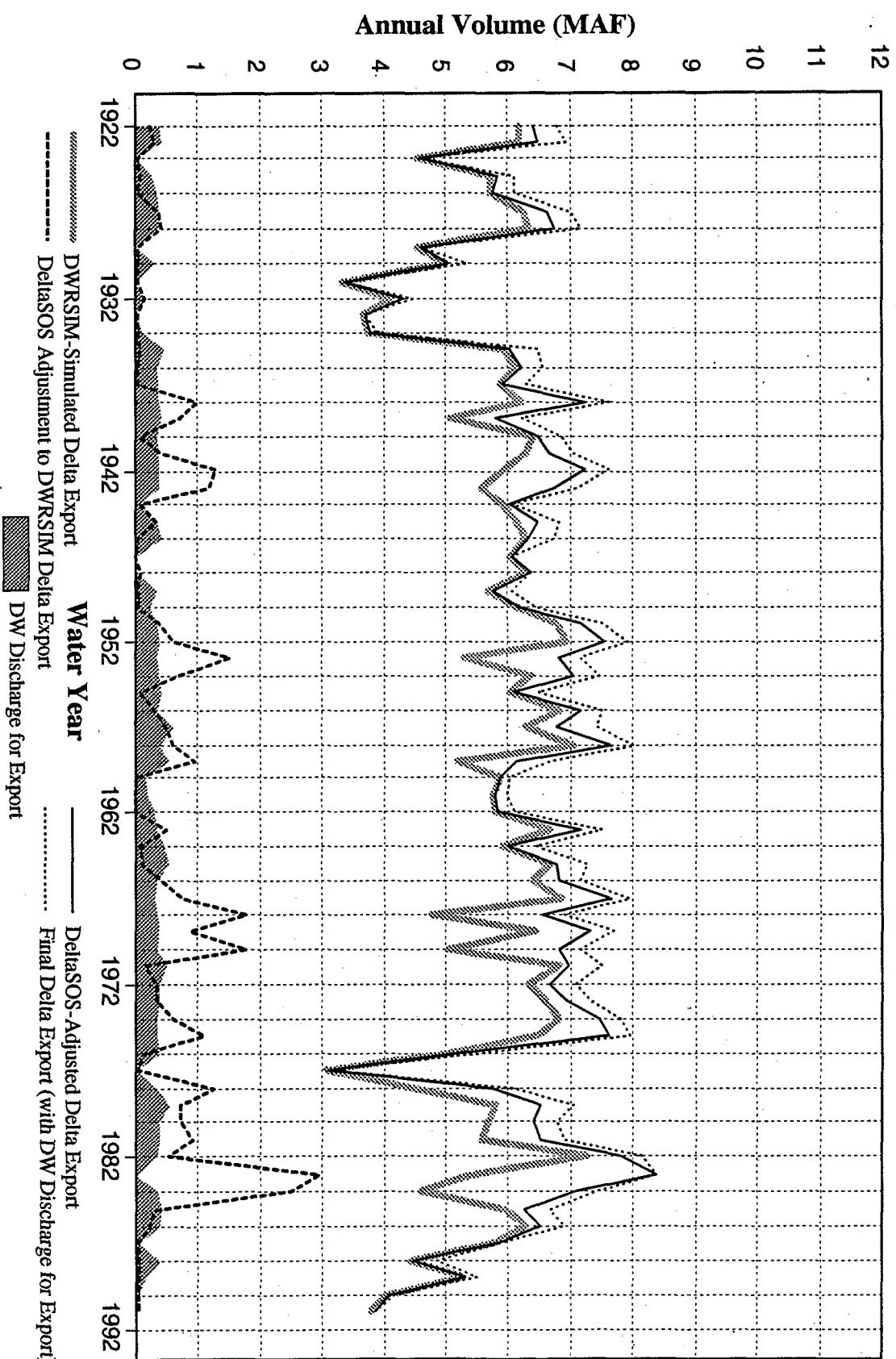
Prepared by: Jones & Stokes Associates

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DeltaSOS-Simulated Annual DW Diversion and DW Discharge  
for Export for 1922-1991 for Alternative 3

Figure A3-12.

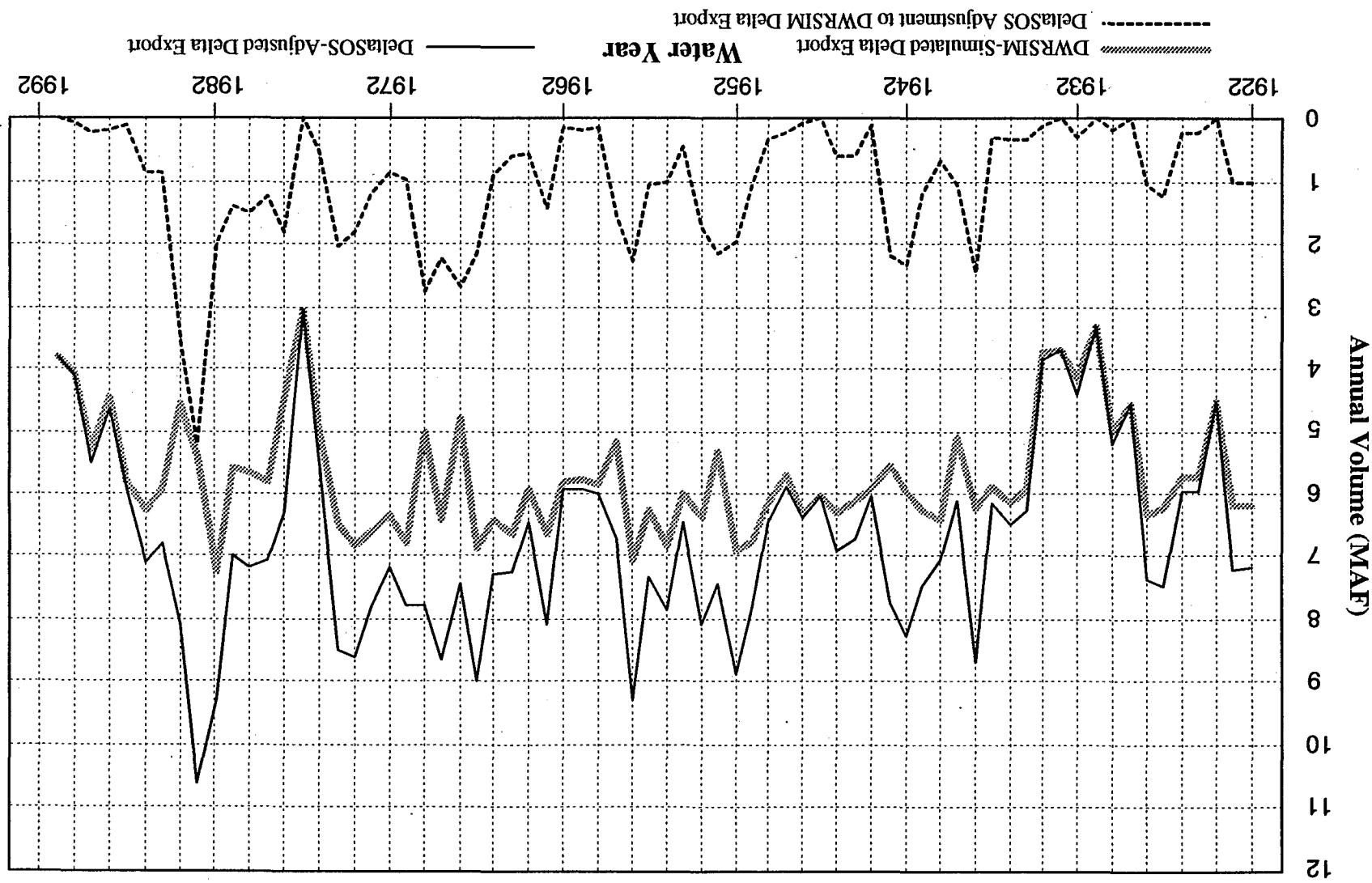


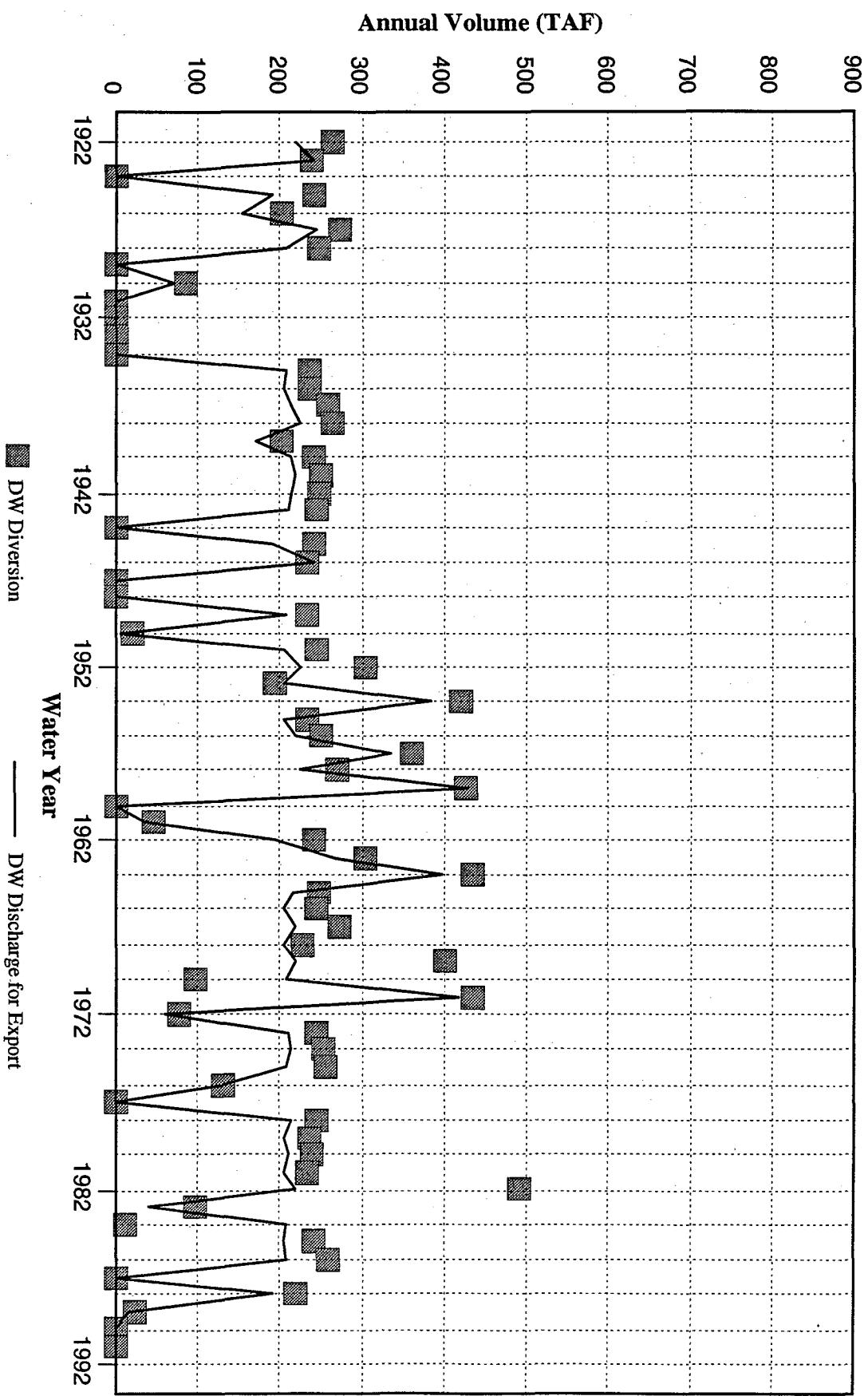


**Figure A3-13.**

DWRSIM-Simulated, DeltaSOS-Adjusted, and Final (with DW Discharge for Export)  
Annual Delta Export for 1922-1991 for Alternative 3

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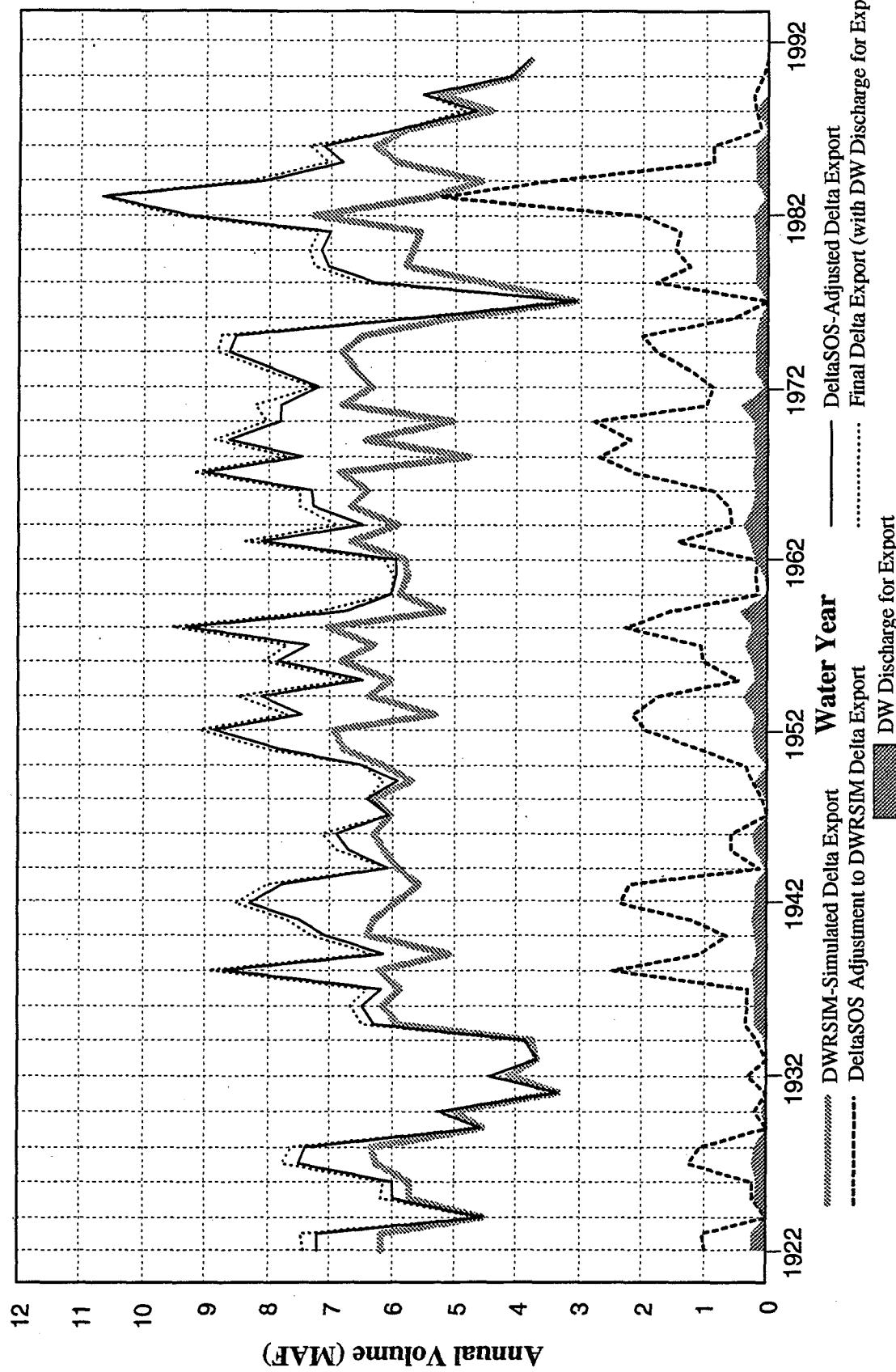




**Figure A3-15.**

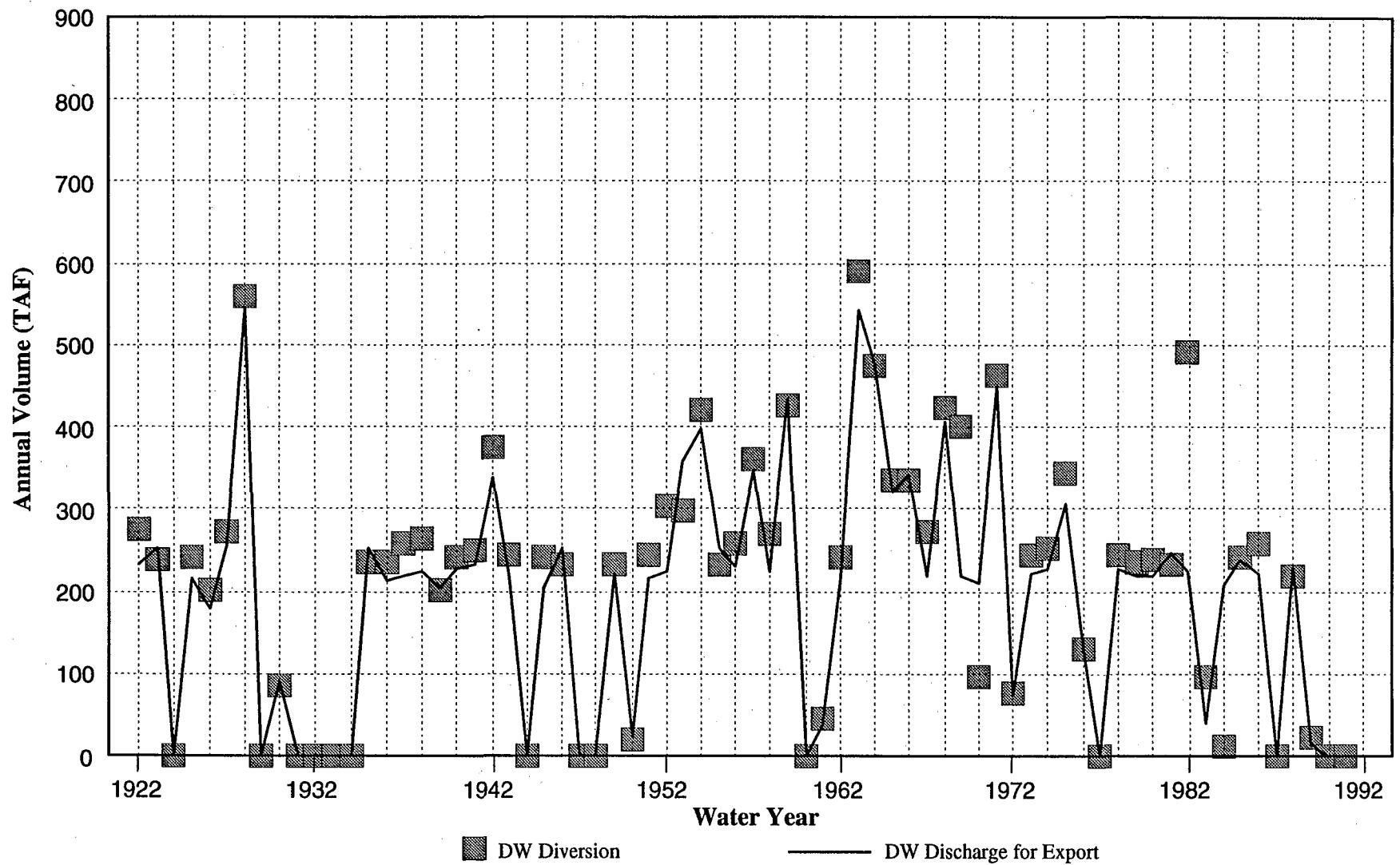
DeltaSOS-Simulated Annual DW Diversion and DW Discharge  
for Export for 1922-1991 for Alternative 1 Cumulative Conditions

**DELTA WETLANDS**  
PROJECT EIR/EIS  
Prepared by: Jones & Stokes Associates



**DELTA WETLANDS  
PROJECT EIR / EIS**  
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**Figure A3-16.**  
DWRSIM-Simulated, DeltaSOS-Adjusted, and Final (with DW Discharge for Export)  
Annual Delta Export for 1922-1991 for Alternative 1 Cumulative Conditions



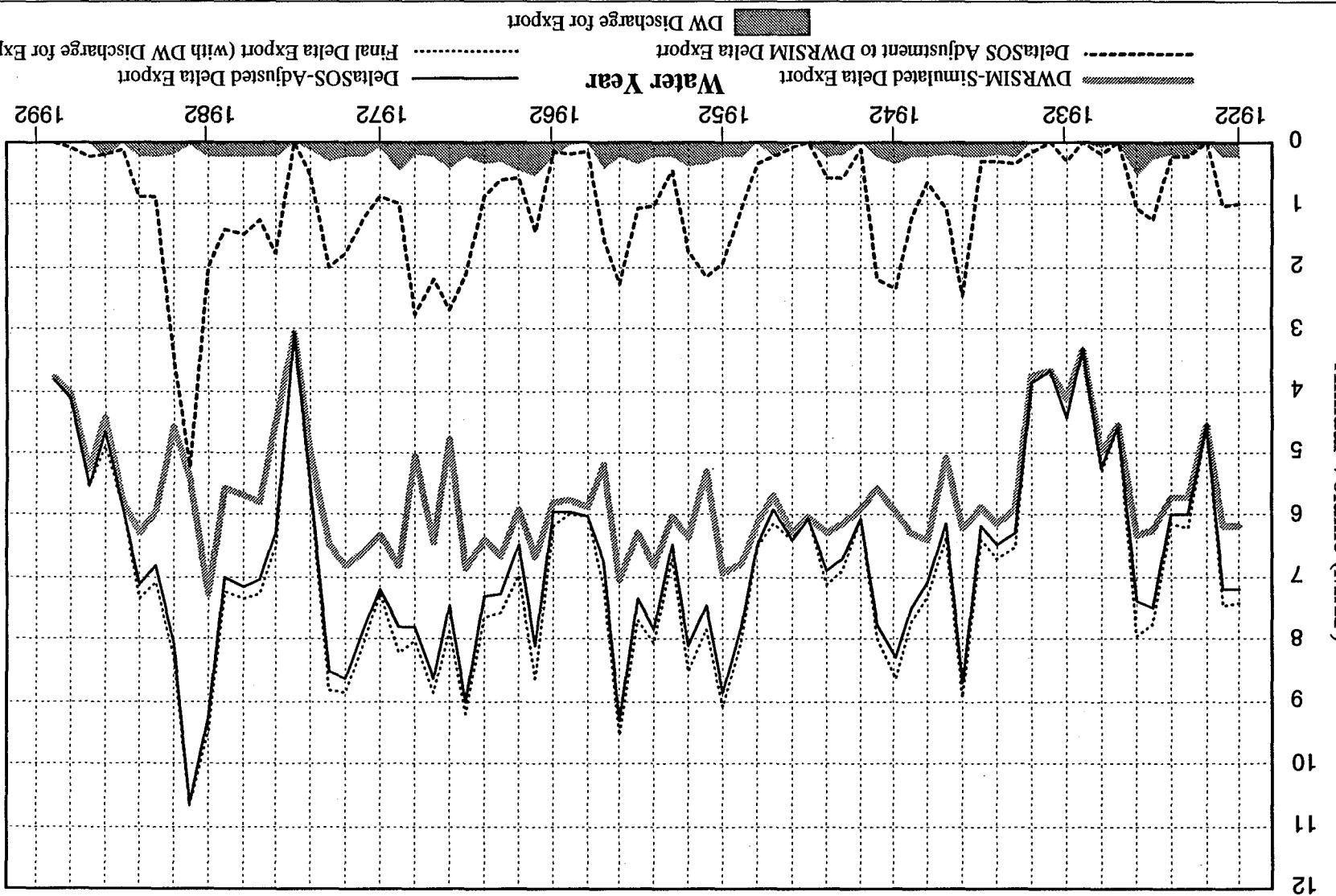
**Figure A3-17.**  
DeltaSOS-Simulated Annual DW Diversion and DW Discharge  
for Export for 1922-1991 for Alternative 2 Cumulative Conditions

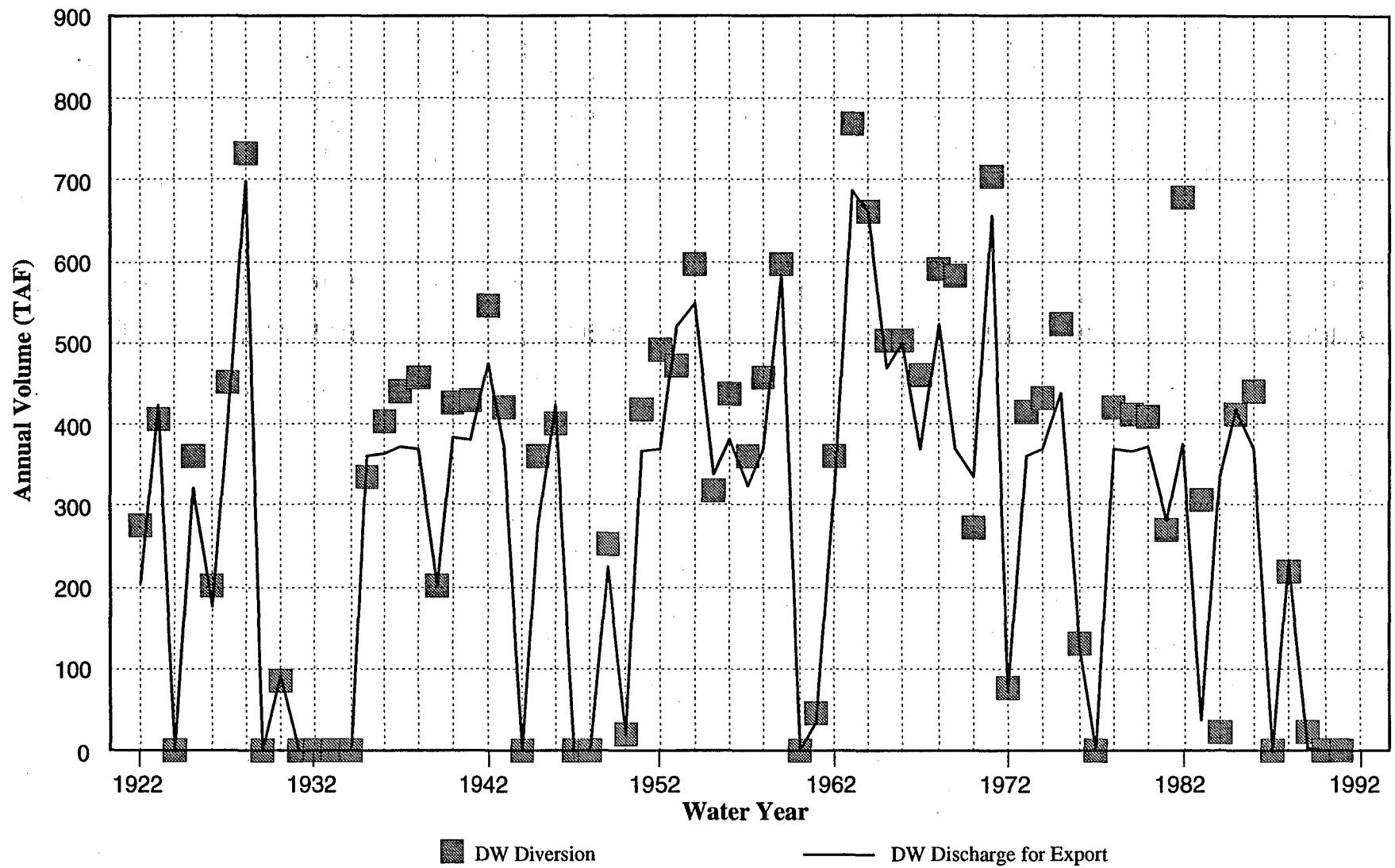
**DELTA WETLANDS**  
**PROJECT EIR/EIS**  
Prepared by: Jones & Stokes Associates

C - 0 6 1 3 9 5

Annual Delta Export for 1922-1991 for Alternative 2 Cumulative Conditions  
Prepared by: Jones & Stokes Associates

1922 1932 1942 1952 1962 1972 1982 1992





**Figure A3-19.**  
DeltaSOS-Simulated Annual DW Diversion and DW Discharge  
for Export for 1922-1991 for Alternative 3 Cumulative Conditions

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Figure A3-20.

